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CROSS-INFECTION IN CHILDREN'S WARDS

A REPORT PRESENTED TO THE BRITISH PAEDIATRIC ASSOCIATION BY THE FOLLOWING AD HOC COMMITTEE:

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The term cross-infection is here used to denote any infection acquired by a patient in the hospital environment. Clinically, it is an infection arising during the course of another illness for which the patient was originally admitted to hospital, and may attack the respiratory tract, gastro-intestinal tract, wound, skin, or mucous membrane, or be manifested as one of the specific fevers.

Cross-infection is a constant anxiety to all concerned with the hospital care of sick children and infants, the latter particularly calling for special protective measures. A great deal has yet to be learned. No explanation, for example, has been given for one of its outstanding features—namely, its fortuitous onset. It is well known that, in spite of overcrowding and poor hygiene, one ward may for long be without manifest cross-infection, whereas another which has every facility and is staffed by well-trained nurses may suddenly be the site of a virulent outbreak. In spite of this it would be folly to ignore the value of adequate preventive measures.

Cross-infection which results in nothing more than a mild catarrhal illness, at times apyrexial, must not be dismissed lightly. There is evidence that this may be but the prelude to outbreaks of increasing severity culminating in a series of fatal illnesses. The virulence of the infection may apparently be increased by passage, and unless prompt measures are taken to control the initial outbreak there may be a calamity. Pemphigus neonatorum furnishes an example of this feature. An outbreak may begin with one infant having a single lesion no more than a few millimetres in diameter. Failure immediately to apply protective measures may be followed by the development of pemphigus in successive patients in whom the illness is progressively more severe, ending in a generalized toxaemia.

Cross-infection by infectious fevers, measles, or chicken-pox, for example, seriously hinders the work of a children's department, for such outbreaks necessitate the closure of a ward or wards for an indefinite period.

Whilst a good deal has been written about cross-infection in children's wards, the frequency, extent, and results of this have never been ascertained. In order to provide this information a special *ad hoc* committee was invited by the British Paediatric Association to present its views on the problem, and the Association has instituted an inquiry to collect evidence on the incidence of cross-infection. The obtaining of this evidence will take time, but the results of the inquiry will be published in due course. The report of the Committee which is here presented is a broad statement of our present knowledge on cross-infection, and, although suggestions are made as to how it may be controlled, opinion is still divided on so many points of detail that the report is more in the nature of a preliminary discussion intended to bring before the profession generally, and those in charge of children's wards in particular, the many problems that have to be faced in the control of cross-infection. This procedure of issuing a report before the exact nature of the problem has been defined may justly be criticized, but it has been done deliberately in this way, in the belief that such a report may help hospital authorities about to create or to improve their facilities for the care of sick children.

General and Bacteriological Considerations

1. Inhalation: Respiratory Tract Infections

This is the most prevalent type of cross-infection, and accounts for much of the morbidity and many of the deaths in infants' and children's wards. It includes tonsillitis, rhinitis, otitis media, common cold, pneumonia, influenza, and infective hepatitis and the specific fevers—scarlet fever, diphtheria, whooping-cough, measles, chicken-pox, rubella, and mumps.

The haemolytic streptococcus, *Str. pyogenes*, which belongs to Lancefield's Group A, is one of the most frequent causes of inhalation cross-infection. Much of our knowledge gained in recent years on the sources and paths of spread of infection in hospital wards is based on studies of the epidemiology and serological typing of streptococcal infections in scarlet fever and measles wards, in otorhinological wards, and in the general medical and surgical wards in children's hospitals and departments. The protean manifestations of infections with *Str. pyogenes* are too well known to need further comment, except to re-emphasize that one and the same serological type may, by spread, cause scarlet fever in one child, tonsillitis in another, otitis in another, and wound infection in yet another, all in the same ward. The importance of the reservoir of *Str. pyogenes* in the human upper respiratory tract as a cause of cross-infection is in part due to the fact that it may have as its portal of entry not only the respiratory tract but also the skin (wound sepsis, infection of burns, erysipelas, impetigo).

The pneumococcus is a not infrequent cause of cross-infection in the respiratory tract, but it does not play such an important part in the epidemiology of hospital infections in this country as it appears to do in the U.S.A., where ward and family outbreaks of acute lobar pneumonia have been reported.

The diphtheria bacillus has been shown to have the same source and mode of spread as infections of the upper respiratory tract with *Str. pyogenes*. Cross-infection with *C. diphtheriae* has been found to be of common occurrence even in diphtheria wards, and, although then without clinical significance, it prolongs the carrier state, with consequent delay in discharge of patients from hospital.

Outbreaks of whooping-cough (*H. pertussis*) are of less frequent occurrence in hospital wards, but may have serious consequences.

The virus diseases are often causes of outbreaks of infection, and are difficult to control. Children with measles are peculiarly susceptible to cross-infection with *Str. pyogenes*, which is commonly responsible for otitis media.

2. Ingestion: Gastro-intestinal Tract Infections

These include gastro-enteritis of infants, epidemic diarrhoea of the newborn, bacillary dysentery (*B. sonnei*), occasionally typhoid or paratyphoid fever, and, more rarely, food-poisoning with *Salmonella* organisms. Thrush, too, may be considered in this group. Outbreaks of gastro-enteritis among infants in hospital wards are common, and may have a case-fatality rate as high as 70%. Although organisms of the dysentery or *Salmonella* group have been identified as the cause of some outbreaks, in most instances no known pathogen has been found, and the possibility that the infection may be due to a virus cannot be dismissed. In this connexion it should be recalled that diarrhoea and vomiting in infancy are often due to infection outside the alimentary tract—notably the upper respiratory tract, especially the middle ears. Thus a child admitted to a ward with a streptococcal or other pyogenic infection—e.g., tonsillitis or otitis media—may by cross-infection produce an upper respiratory infection in another infant, and so cause a parenteral gastro-enteritis.

Outbreaks of typhoid and paratyphoid fevers occasionally occur, but rarely do they arise from infection in the ward. They are more commonly conveyed to the patient in some food infected by a missed case or a carrier among the food-handling staff. It is the nurse who is most in danger of contracting infection from a patient in a ward with an enteric fever.

3. Implantation: Infection of Wounds, Skin, and Mucous Membrane

In surgical wards, otorhinological wards, and wards in which burns are treated, pathogenic bacteria—in particular the pyogenic cocci *Str. pyogenes* and *Staph. aureus*, but also *B. proteus* or *Ps. pyocyanea*—may readily be introduced, either into clean wounds or burns or to lesions already infected, unless the strictest aseptic dressing technique and other precautions are taken to prevent it. The prophylactic and therapeutic use of sulphonamide drugs or penicillin should not be made the occasion for any relaxation in the preventive measure involved in good nursing and aseptic principles. In addition to cases of burns, children after removal of tonsils and adenoids are highly susceptible to infection with *Str. pyogenes* at the operation site, with otitis media or mastoiditis as a not infrequent sequel.

The commonest infections of the skin which may spread in wards are impetigo, ringworm, scabies, and pediculosis. In recent years there seems to have been an increasing incidence of outbreaks of pemphigus neonatorum due to *Staph. aureus* among newly born infants in maternity units and nursing homes, often accompanied by cases of staphylococcal conjunctivitis ("sticky eye"). There is evidence to show that pemphigus neonatorum and staphylococcal conjunctivitis are caused by *Staph. aureus* from the nose or throat or skin of adults in the infants' environment, and it may be a mother, doctor, or nurse, or even a laundress who, through handling napkins or garments with hands infected from the nose or throat or elsewhere, is the source of infection. Moreover, the attendant or parent may be the victim and so become a further source of infection. In outbreaks in infants' nurseries the same serological type of *Staph. aureus* has been isolated not only from skin lesions but also from infants with conjunctivitis in the affected nursery, from the noses of nursing staff, from the dust and air in the nursery, and from the infants' blankets, clothing, and bath. It might also here be mentioned that disinfectants of the liquor chloroxylenolis group, while highly effective against *Str. pyogenes*, are of very little use against staphylococci, and may give a sense of false security if used as hand antiseptics in infants' wards. Mastitis among mothers in maternity units is being noted with increasing frequency, and has been associated with the same epidemiological and bacteriological findings as in pemphigus neonatorum.

The most important infections of mucous membranes, other than those of the upper respiratory tract, which includes the mouth with thrush infection, are vaginitis and conjunctivitis, now less commonly due to the gonococcus.

4. Sources of Infection

The main sources of cross-infection in hospital wards are: (i) Manifest clinical cases. (ii) The patient who is incubating a disease and may be in a highly infectious state. (iii) The ambulant, missed, or subclinical case, unrecognized because of its mildness. (iv) The carrier, who may be convalescent or "healthy." The latter group, which may include both nurses and doctors, is of great importance, as the potential danger can be discovered only by laboratory investigation.

Infection is spread by the secretions, excretions, and discharges of patients, staff, and visitors, and may have its origin in the respiratory tract and its annexes, the gastro-intestinal and urinary tracts, the skin and mucous membrane, septic wounds, burns, or abscesses.

5. Paths of Spread of Infection

These are by contact with contaminated material, either by direct personal contact or by mediate contact with infected clothes, bedding, ward articles, and food. The vectors of infection may be flies. A very important part is played by air-borne infection with droplets, droplet nuclei, and dust, especially in infections having as portals of entry the upper respiratory tract and skin.

It is important to remember (*a*) that the skin of the fingers and hands, and the hair, may harbour organisms identical with those present in the nose and throat; (*b*) that the skin of the fingers and hands is particularly liable to contamination with infected material either directly or by contact with infected fomites and dust from furniture and floor; (*c*) that the pocket-handkerchief, while still the least inconvenient mask against spread of droplet infection from coughing and sneezing, is a vehicle of infection from the upper respiratory tract to the hands and the air.

Droplets and droplet nuclei charged with bacteria are discharged into the air from the nose and mouth, and either settle on the floor, bedclothes, or ward equipment to dry and become redistributed with the dust, or remain suspended as floating particles to be wafted about the ward and inhaled, thereby transmitting infection over a considerable distance. Organisms such as *Str. pyogenes* may remain viable in dust for as long as six months if unexposed to the bactericidal action of sunlight.

Ward Routine

1. Admission of Patients

Every patient should be examined by an experienced medical officer before being allowed to enter the ward. This officer is a key man in the prevention of infection, and his duty should not be left to any medical officer who happens to be available. A history should be obtained of previous infectious diseases, of recent contact with infection, and of immunization. If there is a risk of the patient's bringing an infection into the ward then the urgency of his admission should be reconsidered and, if possible, admission postponed.

Attention must be paid to the throat, nose, ears, and skin; and swabs of the throat should be taken as a routine and, at the discretion of the admitting officer, also of the bowel, skin, and nose. He should direct the admission of the patient to an isolation-room for at least 48 hours if there is the slightest suspicion of infection, or until such time as the patient is declared free from infection. Special admission-wards tend to form a bottle-neck unless there is an adequate number. It is estimated that for an open ward of 20 cots there should be at least four admission-rooms If isolation-rooms are available for ward nursing, then the number of admission-rooms needed will be less.

If on admission an infection is found to be present which may pass to others in the ward, then the infected child should be admitted only to a closed cubicle or isolation-room. If only an open ward is available the child should be barrier-nursed and placed in the ward as far away from especially susceptible children as possible—e.g., if he has streptococci in his throat he

should not be put near any infants or any cases of rheumatism or nephritis.

Type of Case Admitted to Wards.—There is much to be said on clinical and teaching grounds for a unit of medical and surgical cases. There is, however, a danger in admitting certain types of surgical cases to an open ward, because of the risk of wound contamination and because, in turn, an infected wound may be the source of spread of haemolytic streptococci or other infection throughout a ward. Consideration should therefore be given to segregation of special surgical cases—e.g., burns and ear-nose-and-throat cases; those with otorrhoea are a potent source of ward infection, and should always be isolated.

Infants, because of their greater susceptibility to cross-infection and the more serious effects cross-infection may have in them, constitute a special problem. No infant under 1 year old should be exposed to infection. Direct infection from ward dust and droplet infection from other children can be prevented only by nursing infants in cubicles or isolation-rooms. Even this does not do away with the risk of infection from nurses or faulty management. It is essential, therefore, to admit babies only into isolation-rooms or cubicles and to keep them there throughout their stay in hospital. It is an all-too-familiar tragedy for a healthy baby admitted to hospital for a surgical operation—e.g., pyloric stenosis or hare-lip—to die of a gastro-enteritis contracted from ward infection. If, however, only an open ward is available, the infant should be barrier-nursed, and by careful spacing and placing of the cots between non-infected older children the risk of cross-infection may be reduced.

A further point to consider in ward planning is that in the case of babies the admission of the mother may be desirable, either for breast-feeding or to conduct the nursing. Accommodation for this purpose will be necessary, and will be discussed later.

2. Nursing Staff

Next to careful pre-admission examination, the quality of nursing is the most important single factor in controlling cross-infection. However ideal the design of a ward may be, it will not achieve its purpose unless the nursing staff is able to carry out its duties with skill and understanding of the problems involved. The sister in charge of a children's ward should, in our opinion, be "children-trained" and hold the R.S.C.N. certificate, with fever training as a very desirable addition. She should not have more than 20 acutely sick children under her care. The more the ward is subdivided the heavier are the nursing duties, and a children's ward needs more nurses per patient than most other hospital departments. For a ward of 20 beds there should be at least two trained staff nurses for day duty and two for night duty, and the total number of nurses should approximate one per patient for the 24 hours. The practice of leaving only one or two probationer nurses in charge of a ward at night is a common cause of a breakdown in anti-infection measures.

Student nurses should be instructed by a pathologist or senior medical officer in the dangers of cross-infection and how to avoid them, and should be given simple practical demonstrations in bacteriology. Only by imparting to them a knowledge of the problems involved can one expect their intelligent co-operation.

Health of Nurses.—A sick nurse does not do her work well and is a potential source of infection to her patients. All nurses should be encouraged to "report sick" even for minor complaints, for the latter may produce a serious condition if passed on to an infant. Sore throats, the common cold, nasal sinusitis, and skin and dental infections are the main dangers that are too often neglected. Gastro-intestinal upsets should also be reported. If a nurse is found to be harbouring infection likely to be dangerous to her charges she should be removed from duty. A medical officer should be responsible for the general health of the nursing staff, and the nurse should have ready access to him. On entering hospital a nurse should undergo a complete examination before acceptance for training. This should include height and weight measurements, history of past infectious diseases, skiagrams of chest, and Mantoux test, Schick test, and blood counts. Repeat examinations should be made every six months, or at any departure from normality. Student nurses should be actively immunized against diphtheria and the enteric fevers. Nurses previously immunized should be Schick-tested, and, if negative, given a "boosting dose." If positive, they must be fully immunized. Nurses must be taught to keep themselves healthy; many nurses do not make full use of their off-duty periods to take open-air exercise. Facilities for open-air games should be provided. Hospitals should accept greater responsibility for the health of their nurses than they have done in the past.

3. Nursing Technique

This has been largely described in the M.R.C. War Memoranda—No. 6, "The Prevention of 'Hospital Infection' of Wounds," and No. 11, "The Control of Cross-Infection in Hospitals"—and only some of the salient features will be mentioned here.

Washing.—Ideally, every member of the nursing and medical staffs, and all students, should wash their hands before and after attending to or examining each patient. In practice this is seldom done, but it should be insisted on for every patient who is known to be harbouring infection, and after possible contamination by secretions, excretions, or discharges of any child. Nurses should "scrub up" before and after attending to the toilet of the mouth or anus of any child as they would when "doing a dressing." Ample and conveniently situated washing facilities must be provided for this purpose. The wearing of rubber gloves may be helpful in preventing soreness of the nurses' hands from frequent washing.

Masks.—Laboratory tests show that impermeable ("cellophane") masks, or masks made of three or more layers of gauze of not fewer than 44 threads per inch, are fairly efficient for preventing dispersal of organisms until the masks themselves become the emitters of bacteria. They must be worn to cover the nose as well as the mouth. Masks must be worn by all attending infants or any child with a wound, and in the latter case the patient himself should wear a mask during dressings. A liberal supply must be provided, for the masks must be changed frequently. When discarded, they should be put immediately into disinfectant solution and left in until washed. In no circumstances should masks be put into pockets or be left lying about.

Gowns.—These should be worn by nurses handling any suspected or known infectious case. They should cover uniforms completely (including the sleeves). A separate gown should be worn for each patient, and after use it should be placed on a peg or stand with its outside outwards.

Dressings.—The technique of ward dressing is fully described in the M.R.C. Memorandum No. 6, referred to above. Dressings done in an open ward are a source of air- and dust-borne infections, so that a separate room provided with efficient ventilation and specially equipped for doing dressings and minor surgical procedures should be an essential part of any ward unit.

Napkins.—Destructible napkins are preferable (cellulose or gamgee tissue types). After a baby has been changed they should be immediately placed in a dressing-pail and covered with disinfectant; they should then be transferred to a special ward-bin and incinerated. If it is not possible to obtain destructible napkins ordinary ones will have to be used. The same ward procedure must be carried out and the napkins taken to the laundry in the ward bin. Napkins should be boiled and washed in a separate machine in the laundry and afterwards handled only with strict attention to cleanliness.

Linen.—Bed linen should not be sorted in the ward, but be sent direct to the laundry. Linen soiled with excreta should be put in disinfectant before being sent. Ordinary washing of "woollies" in the ward by hand is not a guarantee of sterilization, and the use of a disinfectant may be necessary.

Towels.—Nurses and others drying their hands on a communal towel may convey infection to other users. The use of the roller towel is to be condemned, and tissue towelling which can be burnt is the safest, if not the most comfortable, material to use.

"Task Nursing."—Many wards have adopted the method of allocating separate tasks to each nurse. Thus one nurse is responsible for the changing of all babies, another for the feeding, and another for dressings. This procedure has much to commend it.

4. Prevention of Infection via Food

The kitchen should be considered as one of the most important departments of a hospital. Wash-basins with elbow taps should be provided so that the staff can wash their hands under running water. Ample storage accommodation must be provided for cooked and uncooked food, adequate refrigeration must be available, and all windows fly-proofed. The fly menace should be attacked vigorously by the use of D.D.T. The kitchen staff must realize the importance of their work and the dangers inherent in unclean methods of handling food.

So far as is possible only those interested in the preparation of food should be chosen for work in the kitchen, and the remuneration paid them should be commensurate with the responsibilities they carry. Work in the kitchen should be considered as the highest level of domestic work in a hospital.

Milk forms the most important part of the dietary in a children's ward. It also forms a perfect culture medium, and especial care must be taken to ensure cleanliness and protection from contamination. The source of supply should be subject to special scrutiny. Frequent samples should be submitted to bacteriological examination. If a sample of the milk is taken on its arrival at the hospital, especially if it be delivered in a churn, and a further sample of the same milk is taken six hours later, useful comparisons can be made. A further useful test is to rinse out the ward vessels with sterile water and examine the rinsing for *B. coli* and other organisms. This test should be carried out on vessels that have been "cleansed" for the reception of milk, and should be done without previous warning. All milk should, of course, be efficiently pasteurized and stored in refrigerators. The use of dried milks overcomes the problem of unsafe liquid milk. It must be remembered, however, that dried milks may be just as easily infected by faulty technique during their preparation as may liquid milk.

A special room should be set aside for the preparation of infants' feeds. Nurses working in the milk kitchen should be specially trained in the dangers of food contamination. They should prepare all feeds under aseptic conditions so far as is possible. Masks and gown should be worn and any nurse with an infection, especially of the bowel—e.g., even a transient diarrhoea—should be kept off duty.

5. Ward Hygiene

The main methods now available for reducing the infective content of air are as follows:

Methods for Removing or Killing Organisms while Air-borne

(*a*) *Good Ventilation.*—This is of the first importance in reducing air-borne infection. Fresh air in amount equal to 8 to 10 changes per hour should be introduced, although this demands expenditure on heating in winter and needs careful attention to the avoidance of draughts. It is recommended that expert architectural advice be obtained to ensure that existing or proposed wards have satisfactory ventilation and lighting. The fee involved and the cost of alterations are negligible in comparison with the benefit to patients and staff. In all systems of ventilation it is important to arrange the air-flow so as to carry dust and infective particles away from patients rather than towards them. Mechanical systems of ventilation have not always proved satisfactory, and need careful selection and design for the particular conditions present in each building in which they are used. The provision of large windows admitting plenty of daylight is a valuable aid in killing bacteria on the floor and elsewhere in a ward. The interposition of glass does not prevent this effect, although it reduces it. The action occurs even under winter conditions in this country. In this connexion the importance of balcony space should be stressed not only for its own virtues in nursing sick children but because balcony spacing provides extra light and ventilation to the patients. Children should be nursed in the open air as much as possible and, provided they are warmly clad, feverish patients, especially those with respiratory infections, benefit greatly. Ward temperatures should not be above 60° F. (15.6° C.)—except in nurseries for the newborn. To counter low temperature adequate and suitable clothing should be provided rather than artificial heating. Overheating and poor ventilation promote the spread of respiratory infections.

(*b*) *Adequate Bed-spacing.*—This ranks second in importance only to good ventilation, and the common 6 ft. (1.8 m.) between cot centres is too small. At least 9 ft. (2.75 m.) is needed—and preferably 12 ft. (3.6 m.). Proper bed-spacing goes a long way to reduce droplet infection from case to case. A problem naturally arises here in the question of "extra beds." So far as is possible, the putting up of extra beds should be resisted, but if the emergency does arise then the medical officer in charge must review his bed-positioning and place his extra bed where the risk of cross-infection is minimal, taking into account not only the site of the cot but also its position in regard to the other patients in the ward.

(*c*) *Use of Ultra-violet Rays.*—Low-pressure mercury-vapour lamps may be used for irradiating the upper portions of hospital wards with ultra-violet rays. They have been tried extensively in America and on a small scale in this country. Provided that there are not too many lamps and that they are removed from direct vision, no goggles need be worn, since normal ceiling paints and plaster reflect very little U.V.R. The effectiveness of this type of irradiation is greatest in air of low humidity and on freshly emitted moist organisms; dust practically nullifies the bactericidal action of U.V.R. This method is most useful in rooms of a ceiling height of not less than 12 ft. (3.6 m.). A portable U.V.R. apparatus of suitable design may prove to be a useful adjuvant when disinfecting isolation-rooms and furniture.

(*d*) *Use of Chemical Disinfectants.*—It is easy to disinfect air by chemical treatment under laboratory conditions, but to do this as a continuous routine in hospital wards is troublesome and as yet of uncertain value. Chemical disinfection of air should in the present state of our knowledge of this method be reserved for special occasions or special places, or during epidemics of air-borne disease. The chief disinfectants known to be effective against fresh moist organisms in concentrations that are harmless or nearly harmless to human beings are: (i) hypochlorous acid; (ii) resorcinol; (iii) propylene glycol; (iv) tri-ethylene glycol; (v) lactic acid.

Methods of Preventing the Re-dispersal of Organisms After Emission and Sedimentation

(*a*) *Removal of Dust.*—Wards should be designed to prevent dust accumulation. Walls should be smooth, with rounded corners; there should be no horizontal ledges, even at doors; furniture should be built in, with as few movable pieces as possible. Dry dusting and dry sweeping of floors should be prohibited. The most effective method of keeping down dust from floors is the use of spindle oil on floors of wood or linoleum. For floors of terrazzo, cement, or asphalt oiling is unsuitable; but wet sweeping, or sweeping with sawdust moistened with calcium chloride, is helpful. Vacuum-sweeping is better than dry dusting, although large numbers of organisms pass through the walls of the dust-bag of the ordinary portable domestic sweeper; hence vacuum-sweeping into a centralized piping system is preferable. The time-honoured custom of floor-washing with water from a bucket is most unsatisfactory. Special machines which provide a continuous supply of clean water are available, and should be used.

(*b*) *Oiling of Bedclothes.*—It is now fully proved that ordinary blankets, sheets, pillow-cases, and pyjamas or nightgowns form immense reservoirs of bacteria which are freely scattered in the air when patients move or when beds are made. This emission can be avoided to a large extent by applying a small percentage of a suitable oil—e.g., triton oil—to these articles in the final stages of laundering. Laundries will need expert advice in this matter when this process is first introduced. Dermatitis from the oiling of garments and blankets is not a risk if it is done properly, and this measure alone will greatly reduce the number of bacteria present in a ward.

6. Prevention of Cross-infection by Subdivision of Ward

It follows from the foregoing discussion on air-borne infection that isolation of children in separate rooms must decrease cross-infection. It is on this basis that the subdivision of wards by various types of "cubicles" has been devised. The open ward, however, has certain merits. Children are able to talk and play together, supervision is very much easier, and teaching of students is pleasanter and more practical. In planning a children's ward the aim should be to produce a unit which is designed to reduce cross-infection to a minimum, and which at the same time is practicable to work and will preserve for the child and nursing staff something of the homely, happy atmosphere of the open ward without its attendant dangers.

Individual Isolation Measures

(*a*) *Isolation Unit.*—The policy of converting wards into isolation units—e.g., by dividing a standard 20-bedded ward into two rows of glass rooms (technically called "cells") with a central service corridor, is not entirely satisfactory. However conscientiously the nursing rules are followed, cross-infection, especially with virus diseases, may occur. The reason for failure is the difficulty in preventing the corridor atmosphere from being a vehicle of infection. Air currents may be reduced, if not completely controlled, by the partial air-conditioning system, or an ultra-violet lamp over each unit door may be used to form a protective screen. Units should be made of glass walls, though the lower 2 ft. (60 cm.) may be of steel or wood. In building, care must be taken to avoid horizontal ledges where dust may settle in the junction between the steel and the glass. Glass allows children to see their neighbours and thus reduces their sense of loneliness and, of course, allows easier nursing supervision. Each unit must have good daylight, ventilation, and heating. Its size must be such that a bed or cot can be moved in and out easily and that there is plenty of room for all nursing attention and for minor operative procedures—e.g., lumbar puncture. Doors should be capable of being opened by elbow or foot, not by hand. Every unit should, ideally, be provided with its own wash-basin, but in the interests of economy these may have to be situated

in the corridor, and one basin may have to serve for more than one unit. When each can be fitted with its own wash-basin, the latter should be of such a design that it may be used for bathing a baby as well as for nurses' hand-washing. Infants should not be bathed in a communal bath, which may convey infection.

(*b*) *Cubicles.*—By these are meant ward divisions by partitions not reaching to the ceiling, and varying from 7 to 9 ft. (2.1 to 2.75 m.) in height. For small babies this method may be satisfactory, but with older children, who may stand on their cots, even 9 ft. is barely high enough. Cubicles have the great advantage of being cheaper to build than separate rooms, and their open tops allow of easier ventilation. Opinion is divided on their value as compared with separate rooms or cells, and, although they may give a sense of false security, they at least indicate to the nurse and doctor the need for care.

(*c*) *Complete-isolation Room.*—Children, even babies, dislike being by themselves. The size and equipment of such rooms should be as described for isolation units. Ideally, the front should face south or south-west, and be provided with a verandah or balcony with french windows opening upon them, so that cots can be wheeled out. Outside partitions, which are theoretically necessary, are unsightly, and may be entirely, or in part, dispensed with provided patients occupying the verandah at the same time are carefully selected and spaced. If several floors are used, lifts must be provided and adequate measures taken to ensure that children cannot climb out of windows or over balcony walls or railings. If conversion of an existing ward to include cubicles or rooms for isolation be contemplated certain considerations are necessary before deciding on the required number. The patient most in danger from cross-infection is the infant, and as he is less likely to miss the company of other children he should be specially considered. All babies under 1 year old should be nursed in isolation. So far as accommodation permits, the age limit for isolation should be raised to 2 years, but for older children it should be reserved for preliminary observation on admission, children with suspected or proved infection, and the very ill child to whom a cross-infection might be fatal. In subdividing an open ward some space will be lost and the number of beds reduced. This loss of beds must be set against the lessened risk of infection, with a shorter hospital stay, so that the annual admission rate will not be reduced. The actual number of isolation cells needed per ward will vary with the type and age of case admitted, but at least 25% of the beds should be isolated.

7. Other Desiderata in a Ward Unit

In planning a ward unit other facilities not hitherto stressed must be provided, all of which have a direct or indirect bearing on the question of cross-infection. These are:

(*a*) *Separate Room for carrying out Special Procedures.*—Dressings and minor procedures of a septic character should never be carried out in an open ward where wound contamination is likely. A special efficiently ventilated room should be set aside for this purpose, to which the children can be taken. The room should be considered as an operating theatre, with all its associated aseptic techniques practised.

(*b*) *Accommodation for Mothers.*—In the case of mothers feeding their babies at the breast, provision must be made for them to live in the hospital so that breast-feeding can be maintained—in itself a most valuable measure against cross-infection. The practice of admitting mothers to live with and conduct the nursing of their babies, whether breast- or bottle-fed, has much to commend it. Accommodation should therefore be provided for this purpose. It is desirable to have available specially designed flats or houses where mothers can live with their babies.

(*c*) *Accommodation for Parents.*—Parents are naturally anxious to be at hand if their children are seriously ill, and accommodation for them should be available.

(*d*) *Provision for Examination of Out-patients.*—From time to time children are brought to the ward unit for examination but not necessarily for admission. This is not a good policy, but if it must be done there should be a separate waiting-room and examination-room, which will prevent the introduction of infection from outside.

After 30 years' service in providing the more severely wounded ex-Service men with the means of living a useful life in the community, the Princess Louise Scottish Hospital for Maimed and Limbless Sailors and Soldiers has decided to build a modern hospital on the site of its present establishment at Erskine, on Clydeside. In the years 1939–45 approximately 3,000 men from Scottish regiments, the Royal Artillery, Royal Engineers, Royal Marines, Royal Navy, and Merchant Navy were admitted to the hospital. There are now 148 patients, some of them airmen, including 68 surgical, 42 medical, 38 paraplegic, and there are also 64 pensioners. The hospital appeals to the people of Scotland to help to replace the present buildings, erected shortly after 1916.

NUTRITION IN VIENNA IN NOVEMBER, 1945

BY

MAGNUS PYKE, Ph.D., F.R.I.C.

A report has already been made on nutrition in Vienna in early September, 1945 (Pyke, 1945). At that time, although the Allied Council had been established, adequate food rations were not being distributed in the city. On Sept. 23, however, it was decided that rations providing at least the minimum nourishment needed for subsistence should be distributed throughout Vienna. At first, although similar rations were issued in different parts of the city, each national element comprising the Allied Council brought in supplies for the feeding only of that population living in the sector of Vienna administered by itself. At the beginning of October, however, it was agreed to pool all food, so that the Austrian authorities could distribute as nearly as possible the same ration throughout Vienna.

Although the Allied Council ration scales represented a substantial improvement on those previously obtainable in the city, they were only sufficient to provide a bare nutritional minimum. Furthermore, the provision of vitamin C and vitamin A was entirely dependent on potatoes and vegetables, supplies of which were uncertain, and in addition, so far as children and pregnant women were concerned, the adequacy of the diet was contingent on at least a minimum amount of milk being available. A further overall weakness of all the ration scales was a shortage of calcium.

As was inevitable in the light of the uncertain and divided administration of Vienna, in the event, exact standardization of the ration was not found to be completely possible. The fact that supplies during the two weeks covered by the survey were greater or less in one zone than in another is probably not significant. The difficulties of food distribution made it impossible for issues to be equal at all times. For example, during the first week there was a double issue of fat in the Russian sector. This was made to compensate for a failure to distribute fat during the previous week.

Individual Food Consumption

In Vienna a number of factors are likely to affect the composition of the diet eaten by an individual. Although the nature of the food is broadly contingent upon the composition of the ration, there are, besides the general fact that rations are taken into a household and not usually eaten by an individual, the influence of communal meals on the diet and the availability of unrationed foods from gardens or from the black market. A further possibility is that rationed foods may be exchanged for clothes or other goods. In order to assess the composition of the diet actually being eaten by different sections of the Viennese population in November, 1945, a number of groups of individuals were interrogated about the food they had eaten during the previous 24 hours. The assessment of the nutritional value of the diet was made in the same manner as that described in the previous report, written in September.

Normal Consumers

Two groups of normal consumers were investigated. These were taken at random from queues in public offices in the XIIth and XIIIth districts. The composition of the diets eaten, as derived from calculations made on the data collected, is shown in Table I.

TABLE I.—*Composition of the Average Daily Diet Eaten by Normal Consumers in Vienna, Nov. 7–16, 1945*

	Cal.	Prot. (g.)	Fat (g.)	Ca (mg.)	Fe (mg.)	Vit. A (i.u.)	Vit. B_1 (mg.)	Rib. (mg.)	Nic. Acid (mg.)	Vit. C (mg.)
Bz. XII (15 people: 7 men, 8 women)	1,630	59	18	190	17	220	1·70	0·75	11	26
Bz. XIII (20 people: 9 men, 11 women)	1,750	60	16	240	17	130	1·70	0·70	10	19

NOTE.—A deduction has been made to allow for the loss of vitamin C in cooking.

It is interesting to compare the figures shown in Table I with those obtained in September from two similar groups of individuals. In September the calorific value of the diet was about 1,000 and the food eaten provided less than 50 g. of protein. Moreover, in the earlier survey, whereas one of the groups of individuals studied was obtaining about 50 mg. of vitamin C per day, the other received only 7 mg. The present more equal vitamin C intake is due to the improved distribution of potatoes. The lack of calcium and riboflavin still apparent is due to the overall shortage of dairy produce and to delay by the Austrian authorities in carrying out a Kommendatura agreement that flour might be fortified with chalk. The shortage of vitamin A is largely due to the lack of green vegetables.

Factory Workers

Groups of industrial workers from two different Bezirke were surveyed. The first factory visited was a light engineering works in the XIIth district employing a large number of men. The second was a smaller establishment in the XIVth district manufacturing heating appliances. At both factories a canteen meal was provided at midday. In order to obtain this meal workpeople must give up a certain number of ration coupons. The amount of food they receive in return, however, is almost always considerably larger than that represented by the coupons. The advantage for the canteen meals is partly obtained by the official issue of a *per capita* supplement. Of far greater importance, however, is the fact that almost all factories use part of their output and, even more significant, part of their transport to obtain by one means or another potatoes, horse meat, or some other additional supply of food frequently from sources outside Vienna. In the case of the two factories where studies were carried out, the midday meals provided approximately 910 and 870 calories respectively. The nutritional value of the full day's diet eaten by the workmen at the two factories is shown in Table II.

TABLE II.—*Composition of the Average Daily Diet Eaten by Factory Workers in Vienna, Nov. 7–14, 1945*

	Cal.	Prot. (g.)	Fat (g.)	Ca (mg.)	Fe (mg.)	Vit. A (i.u.)	Vit. B_1 (mg.)	Rib. (mg.)	Nic. Acid (mg.)	Vit. C (mg.)
Light engineers, Bz. XII (group of 20 men)	2,300	90	32	390	23	810	2·50	1·22	16	46
Heating-appliance manufacture, Bz. XIV (20 men)	2,040	84	16	300	26	120	2·25	1·01	12	19

NOTE.—A deduction has been made to allow for the loss of vitamin C in cooking.

The figures in Table I suggest that normal consumers, whose ration provides about 1,550 calories, were eating somewhat more than the food to which they were strictly entitled. In the case of factory workers, however, most of whom possessed workers' rations supplying 2,250 calories, there is some evidence to suggest that part of their food entitlement went to their families. The figures in Table II show that the food eaten by the two groups of men studied was not enough for them to be able to do physical work efficiently, even though an improvement was apparent over the far more inadequate food intake of about 1,500 calories found during the course of the survey made in early September. In addition to the overall shortage of food shown by the lack of calories, the diet of these factory workers was deficient in calcium and vitamin A and to some extent also in riboflavin. An outstanding feature of the Viennese factory workers is the substantial contribution made by the factory meal. Since a large proportion of this meal is derived from foods which are obtained in a somewhat unofficial manner, the nutritional safety of this class of the community may be even less secure than would appear to be the case.

Children

The diets of the groups of boys and girls about 12 years old were investigated in two separate schools. At the time this investigation was made, although the official ration provided for the issue of half a litre of milk to children between the ages of 6 and 12, in fact no milk at all was available for this age group. Since the September survey was carried out, however, the municipal authorities have been able to provide midday meals for almost all the children attending school in Vienna. These meals are in most cases cooked centrally and issued to the schools in insulated containers. The food provided contributes about 380 calories a day during six days of the week. At the schools where this investigation was carried out the rotation of meals was customarily made up by bean soup, pea soup, flour soup, barley soup, and potato soup, together with a roll. A small amount of dried milk in certain of the recipes provided a limited contribution of animal protein. During the investigation it appeared that the children usually ate the meal provided at school and then were given another when they returned home.

TABLE III.—*Composition of the Average Daily Diet Eaten by Schoolchildren in Vienna, Nov. 9–14, 1945*

	Cal.	Prot. (g.)	Fat (g.)	Ca (mg.)	Fe (mg.)	Vit. A (i.u.)	Vit. B_1 (mg.)	Rib. (mg.)	Nic. Acid (mg.)	Vit. C (mg.)
A group of 15 girls aged 12–13, Bz. XII	1,810	76	19	320	21	660	1·88	0·86	10	21
A group of 15 boys aged 10–12, Bz. XII	2,020	76	29	360	19	750	1·89	1·10	10	23
A group of 20 girls aged 12, Bz. XII	2,240	89	28	560	21	2,240	2·0	1·09	11	27
A group of 20 boys aged 12, Bz. XII	1,880	80	18	380	20	2,390	1·74	0·94	10	32

NOTE.—A deduction has been made to allow for the loss of vitamin C in cooking.

The figures given in Table III show that although the energy value of food available to children has been substantially increased from about 1,300 calories available early in September, it still falls short of the approximate requirement of 2,500 needed for proper development. Furthermore, the diet is substantially deficient in calcium. There is also a deficiency of vitamin A, together with a shortage of vitamin C and riboflavin. The marked fluctuation in the vitamin A intake of the different groups of children is due to the uneven availability of green vegetables. In the case of the last group of children, 5 out of the 20 had eaten substantial amounts of green vegetables during the period of survey and others had obtained vegetables shortly before. At the first school, however, two of the children had had only small amounts of cabbage, while many of the others were unable to recall when green vegetables had last been available to them.

Family Food Consumption

In order to obtain a picture of the availability of food to households in the different sectors of Vienna a survey of family food consumption was undertaken. During each of two consecutive weeks approximately ten families in the four national sectors and in the international sector of Vienna were visited daily by welfare workers specially detailed for the investigation by the Jugendamt. At the first visit an inventory was taken of the food in the larder which would be used in the course of the week. Each item was weighed and a record made. Thereafter, during seven consecutive days, a visit was made to each household, and all foods purchased or otherwise obtained were entered on a record sheet. In order to check the accuracy of the information provided by the housewives, daily menus were recorded on at least two days of the survey. The collection of menus served a twofold purpose—first, it gave information as to how rationed items were being used, and, secondly, it served to bring to light foods which by oversight or otherwise had not been recorded. On the seventh day a final inventory was made of food remaining in the house.

As has been previously mentioned, a number of meals are eaten outside the house in Vienna. In order that the *per capita* consumption of food could be calculated from the total amounts of foods coming into each household, it was assumed that an individual could be represented by 21 meals per week. Thus, should three individuals record that 7 meals per week were obtained from a factory kitchen, a deduction of one person was made in assessing the *per capita* family food intake. School dinners, however, were assessed as only half a meal, since, as

I have said, it was customary for children to eat another meal when they reached home. Besides making an allowance for meals taken out of the house, an opposite allowance was made when guests were recorded as having taken meals with the family.

It had been planned that families should be chosen for the survey entirely at random, and addresses were so selected from the house lists used by the Food Office for the issue of ration cards. When the survey was begun, however, some difficulty was encountered in obtaining co-operation from all households, as many of the Vienna population have suffered annoyance and hardship from a series of visits from billeting officers, requisitioning officers, and the troops of several nationalities. Details of the population sample finally included in the survey are given in Table IV. It can be seen from this table that the sample is considerably overweighted with women. The proportion of men to women in the whole of Vienna at the time of the investigation was 40 to 60.

TABLE IV.—*Composition of the Population included in the Survey of Family Food Consumption*

Number of Households

British sector	20
American sector	19
French sector	20
Russian sector	18
International sector	20
Total	97

Number of Individuals

Ration Category	Men	Women	Total
Normal consumers	26	108	134
Employees	18	48	66
Workers	19	11	30
Heavy workers	2	4	6
Children:			
0–3 years	—	—	13
3–6 ,,	—	—	17
6–12 ,,	—	—	32
Total			298

A most interesting feature is the list of vegetables obtainable in the separate zones of Vienna. Officially, only potatoes had been issued during the period of the survey, with the exception of a small amount of green vegetables in the Russian zone during the first week. The data collected, however, showed that a useful supply of green vegetables was being obtained as gifts or by individual purchases in all sections of the town. It seemed clear that, although many families could obtain vegetables, a substantial number of others were without them for prolonged periods.

The average nutritional value of the foods obtained by Vienna households in different parts of the city between Nov. 7 and Nov. 23, 1945, is given in Table V. In comparing the results shown in this table with those in Tables I–III it must be borne in mind that the latter gave an estimate of the amounts of food which people had actually *eaten*, whereas Table V shows the average amounts of food *obtained* per head in each household. It is often considered that under normal circumstances a loss amounting to up to 10% of the nutritional value occurs during the process of preparation and cooking. It might therefore be argued that the results of the household survey ought not to be compared directly with those of the individual survey. On the other hand, the overall scarcity of food in Vienna might be expected to cause a reduction in the margin between the results obtained by the two methods.

The results set out in Table V based on family food consumption are, in fact, in substantial agreement with the studies of the individual groups composing the family summarized in Tables I–III. The average figures shown in Table V indicate, as did the previous figures, that, although the total amount of food available to people in Vienna, measured by its calorific value, is not sufficient to provide a diet fully adequate nutritionally, it nevertheless reaches the *per capita* value of 2,000 calories, which might reasonably be expected to be sufficient for subsistence. The two consistent deficiencies in the diet are a deficiency of calcium and a deficiency of vitamin A. In addition to these shortages there is some deficiency in riboflavin. A fourth weakness in the diet is a tendency to a deficiency in vitamin C. It must be remembered that whereas a deduction to allow for the loss of vitamin C in cooking has been made in Tables I–III, no such allowance has been made in Table V. Since the loss of vitamin C in cooking amounts to about 60% for green vegetables and 50% for potatoes, it is highly probable that not enough is available for full nutrition. Furthermore, it has already been pointed out that the distribution of green vegetables is unequal between different families in different parts of Vienna.

TABLE V.—*Average Nutritional Value of Food obtained per Head per Day by Vienna Households (November, 1945)*

	Cal.	Prot. (g.)	Fat (g.)	Ca (mg.)	Fe (mg.)	Vit. A (i.u.)	Vit. B_1 (mg.)	Rib. (mg.)	Nic. Acid (mg.)	Vit. C (mg.)
British sector:										
Nov. 7–14	1,760	59	30	330	16	2,310	1·58	0·88	8	70
Nov. 16–23	2,220	79	25	300	22	1,570	2·11	1·01	10	58
U.S. sector:										
Nov. 5–12	1,990	69	41	400	11	600	1·67	0·94	9	39
Nov. 15–22	1,790	63	20	260	20	660	1·69	0·82	9	42
French sector:										
Nov. 6–13	2,160	79	41	570	21	3,240	2·21	1·21	10	85
Nov. 16–23	2,180	66	19	310	19	2,360	1·94	0·98	11	91
Russian sector:										
Nov. 6–13	2,390	86	52	480	23	1,800	2·00	1·32	11	50
Nov. 16–23	1,920	64	17	230	18	960	1·84	0·80	10	55
International sector:										
Nov. 5–12	2,360	79	38	380	21	780	1·95	1·01	11	40
Nov. 16–23	1,610	53	21	240	14	530	1·44	0·71	8	36
Average	2,040	70	30	350	18	1,480	1·84	0·97	10	57

Loss of Weight among the Population of Vienna

During the past three months the heights and weights of several groups of the population in Vienna have been collected. Figures for children and for male factory-workers are set out graphically in Fig. 1 and Fig. 2 respectively. The children's weights were collected by the Vienna school medical service; the weights of factory-workers were specially obtained as part of this investigation.

Children

In Fig. 1 the heights and weights of 6,858 Viennese children have been plotted. The standard curves shown are those of Pirquet (1913). From this graph it can be seen that in October

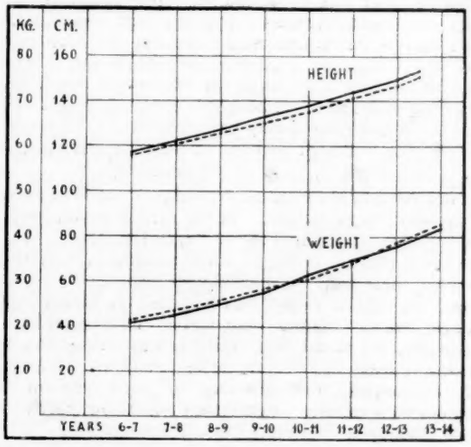

FIG. 1.—Heights and weights of Vienna school-children, Sept.-Oct., 1945. ——— = Average recorded height/weight of 6,858 children. .. .. = Pirquet's standard.

the children of Vienna showed no loss of weight compared with the standard. There was, however, some increase in height without a corresponding increase in weight. In general, however, the results appeared to be reassuring. It is interesting to record that a similar set of weighings carried out in Graz, in Styria, gave results almost identical with those obtained from the Vienna school-children.

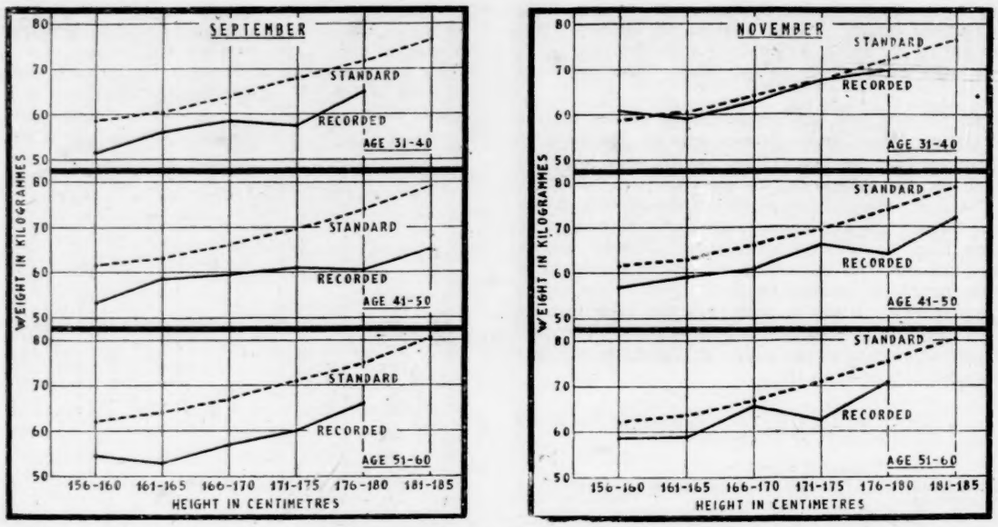

FIG. 2.—Heights and weights of male factory workers in Vienna, 1945. (The standard for body weight is that of Davidson and Anderson.)

Industrial Workers

In Fig. 2 the body weights of workers in a large factory in the XIth district of Vienna have been plotted against heights. The total of approximately 600 workers were split into the three age groups shown. The figures used as standard for body weight are those of Davidson and Anderson (1940). The first part of Fig. 2 suggests that in September a loss of weight between 8 and 10 kg. had occurred, with the greater loss having been suffered by the older men. The second part of the figure indicates that by November the youngest group of men had attained a weight equal to the standard, while in all cases an increase had occurred. Although weighings were carried out with the work-people in shirt and trousers and without shoes, we cannot completely exclude the possibility of an increase in weight due to heavier underclothes worn in the colder weather.

Conclusions

Although there was a substantial improvement in the food supplies of Vienna between September and November, 1945, the full nutritional requirements have not yet been provided. So far as protein is concerned the total amount available appears to be adequate except for the lowest ration category of "normal consumer," although it is possible that the proportion of animal protein may be insufficient. The shortage of fat in the diet, although perhaps of little physiological significance, is a measure at least of unpalatability.

A comparison of the intake of vitamins A and C in September and November is of interest. In the earlier month the official ration supplied no vitamin A or vitamin C at all, but, since people could procure at least a small amount of vegetables for themselves, their diet was partially protected. In November, however, the official ration was designed to supply adequate quantities, but as potatoes were scarce and vegetables almost unobtainable, the actual diet available was worse than before. In order, at least in part, to make good this deficiency the British authorities are proposing to issue vitamin tablets throughout their sector. These tablets will also supply a supplement of riboflavin. To meet the calcium deficiency it is proposed, as was mentioned earlier, to add chalk to the bread.

Summary

A dietary survey carried out in Vienna in November, 1945, showed that the food eaten by normal consumers provided about 1,700 calories daily; factory workers obtained approximately 2,200 calories, and children 10 years old about 2,000 calories. All the diets were deficient in calcium, vitamin A, and riboflavin, and there was a shortage of vitamin C for the children. A survey of the weekly food consumption of 97 Vienna families broadly confirmed these results and suggested that the average *per capita* diet supplied about 2,000 calories daily.

The weights of Vienna school-children showed no drop below the standard for age, while a slight excess in height appeared to exist. A group of factory workers seemed to have increased in weight since September.

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THE "IONIZATION" OF PENICILLIN

BY

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The practice of using solutions of penicillin for the treatment of infected wounds by ionization seems to be on the increase, and some authors—notably von Sallmann (1943), Struble and Bellows (1944), and Dunnington and von Sallmann (1944)—using this method for eye infections have claimed satisfactory results. Before these results can be accepted it must be shown that penicillin in solution behaves as an electrolyte. A series of experiments was therefore designed to test this hypothesis, and the results, which are reported in this paper, suggest that it is untenable. No attempt was made to determine the specific conductivity of penicillin in solution, but it seems amply clear that, even if the molecule does move, the rate will be so slow that a therapeutic concentration in the tissues will not be obtained, and there is a strong possibility that the penicillin will be destroyed by the products of electrolysis of other electrolytes present.

Methods

In all experiments the apparatus shown in Fig. 1 was used. The strength of the penicillin solutions was between 25 and 50 units per ml.—a convenient concentration for estimation by the cup method employed; where a penicillin–agar base was used, slices were cut off and dropped on to seeded plates and the penicillin content estimated from the diameter of the zone of inhibition, as in the cup method.

Where an indicator was required B.D.H. 4110 was used, as this dye has no inhibitory effect on penicillin. All the water employed in the experiments was redistilled from alkaline $KMnO_4$ in an all-glass apparatus.

Experiment 1.—The glass tube was filled with the redistilled water. The maximum current was passed for two hours. During this time the current increased from 0.05 to 0.15 milliampere. The test was

repeated with a solution of sodium penicillin in redistilled water (25 units per ml.). The milliammeter readings increased from 0.10 to 0.15 in two hours.

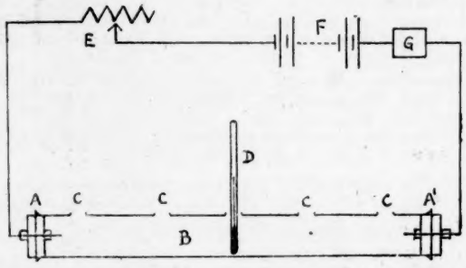

FIG. 1.—Apparatus used for all experiments.—A, A', Non-polarizable platinum electrodes, 14 cm. apart. B, Glass tube, 1 cm. bore. C, Holes in tube for sampling. D, Thermometer. E, Variable resistance for controlling current. F, High-tension battery, 240 volts. G, Milliammeter.

The addition of penicillin to the water leads to only a slight initial increase in the amount of current passing through it. Penicillin is therefore either a very poor conductor or a non-conductor; in the latter case the slight increase in current might well be due to impurities in the drug.

Experiment 2.—The glass tube was filled with sodium penicillin solution (25 units per ml.) and the maximum current passed for two hours. Samples of the solution from the region of the anode and

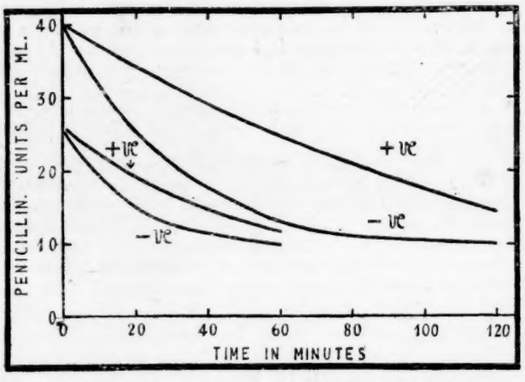

FIG. 2.—Experiment 2: showing rate of loss of penicillin at the anode (+) and cathode (−). Aqueous solution; two tests.

of the cathode were tested for penicillin activity at intervals. The results of two tests are shown in Fig. 2, where it can be seen that the penicillin is destroyed at both electrodes, although more rapidly at the cathode.

Experiment 3.—Experiment 2 was repeated with addition of the indicator, B.D.H. 4110, to the solution. The colour changes showed that the solution at the anode rapidly became acid (*p*H 4) and at the cathode became alkaline (*p*H 10). At the end of 15 minutes these changes were complete in the respective halves of the tube. Test sampling from each end of the tube for penicillin activity was carried out, and the results obtained were identical with those of Experiment 2.

The indicator therefore has no effect on the penicillin. The destruction of the penicillin is probably due to the gross *p*H changes in the solution, which themselves may be due to the electrolysis of impurities in the penicillin.

Experiment 4.—In order to slow down the rapid ionic movement demonstrated by the *p*H changes in Experiment 3, the tube was filled with 3% agar in redistilled water containing B.D.H. 4110 and 50 units of sodium penicillin per ml. The current was maintained at 10 mA for 23 minutes. The agar column was 120 mm. long, and at the end of the experiment the colour change at the anode indicating *p*H 4 was 35 mm. long and at the cathode (*p*H 10) 20 mm. long. Plating of disks of the agar at the end of the experiment showed that at the anode, where the *p*H was reduced to 4, only 3 units penicillin per ml. remained, and at the cathode only traces of penicillin were detected. In the central part of the column, where the reaction remained neutral, 50 units per ml. were recoverable from all parts, no shifting towards either electrode being demonstrated. This experiment again suggests that the penicillin destruction, when it occurs, is due to gross *p*H changes.

In none of the foregoing experiments do the conditions of test resemble those which would be encountered in *in vivo* methods. As practically all body fluids contain sodium chloride and most tissues other chlorides, the experiments were repeated in the presence of the former salt, and, as will be shown, this leads to even more rapid destruction of the penicillin.

Experiment 5.—The tube was filled with 0.9% NaCl in redistilled water containing various concentrations of sodium penicillin. These were subjected to various strengths of current, and the penicillin content was determined at intervals by the cup method, as in the previous experiments. The results are shown in Fig. 3. It will be

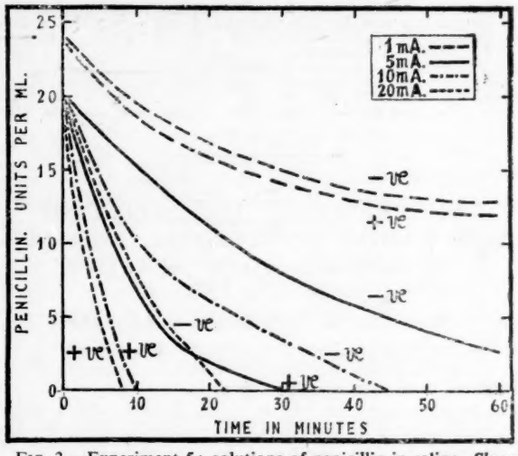

FIG. 3.—Experiment 5: solutions of penicillin in saline. Showing rate of loss of penicillin at anode (+) and cathode (−) at different current strengths.

seen that the penicillin is destroyed more rapidly at the anode (in watery solutions the reverse is true), and this is probably due to the presence of chlorine. Also the greater the current the greater the rate of destruction of penicillin. For instance, at 20 mA 20 units per ml. are destroyed within 10 minutes (anode), while at 5 mA 20 units per ml. are destroyed in 30 minutes (anode). The tests also show that the rate of destruction of penicillin in a solution of NaCl is more rapid than when no NaCl is present. The temperature of the solution being ionized rose in all these tests but never exceeded 21° C.

Experiment 6.—The tube was filled with a column of agar containing 0.9% NaCl, 50 units per ml. of sodium penicillin, and indicator B.D.H. 4110. The current was passed at 10 mA for 20 minutes, and at the end of this time the agar was sliced and plated. The penicillin had been completely destroyed where colour changes had occurred in the agar, but in the central part of the column, where the *p*H was about 7, there had been no detectable loss or movement of penicillin.

Compared with Experiment 4 these results show that ionization in agar containing penicillin and NaCl leads to more rapid destruction of the penicillin in the region of the electrodes. Again there is no evidence that penicillin behaves as an electrolyte.

Discussion

No claim is made that these experiments are exhaustive, but the results seem to justify an assumption that any attempts to ionize penicillin into the body are doomed to failure. Penicillin appears to be either a very poor conductor or a non-conductor—an observation confirmed by the failure to demonstrate any movement of penicillin during the passage of an electric current through a solution of its sodium salt. If penicillin is a conductor, albeit a very poor one, it should be possible to demonstrate ionic movement by suitable *in vitro* experiments; even if this can be done the movement will be relatively slow, and it is doubtful whether a therapeutic concentration could ever be obtained in the tissues. Again, all tissue fluids contain sodium chloride, and, as has been shown *in vitro*, the products of electrolysis of this salt are highly lethal to penicillin; naturally free chlorine and sodium hydroxide are not formed in the tissues during electrolysis, and at the moment one cannot

say whether the experimental results *in vitro*, in this respect, are applicable to *in vivo* methods.

High concentrations of penicillin were not used in the experiments because they would have had to be grossly diluted in order to estimate the amounts present. This dilution would have introduced unnecessary errors into the estimations.

Summary

Penicillin is either a non-conductor or a very poor conductor (Experiment 1).

It has been impossible, in the conditions described, to demonstrate any movement of penicillin under the influence of an electric current (Experiments 4 and 6).

The presence of the products of electrolysis of sodium chloride in the *in vitro* experiments led to the rapid destruction of penicillin. It is not known how far this observation can be applied to *in vivo* methods.

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DIFFERENCE IN THE EFFECT OF SCOPOLAMINE ON PERORAL AND SUBCUTANEOUS ADMINISTRATION

BY

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Particular circumstances brought it about that in my department (dermatology) we had occasion to carry out a series of systematic studies on the effect of scopolamine given by mouth in doses of 3–4 mg.—i.e., 6 to 8 times the Danish maximal dose (0.5 mg.)—and to compare it with the effect of 0.5 mg. given subcutaneously.

Effect of 3–4 mg. Given by Mouth

One of my patients, a nurse admitted for a severe *x*-ray burn, had some time before been sentenced to prison for an attempt to poison her matron, being accused of having poured some scopolamine in her coffee. The sentence aroused an enormous sensation in Denmark, and many persons offered voluntarily to act as experimental subjects in order to try out the effect of scopolamine given in moderately increased doses by mouth (3–4 mg.). This was the amount of scopolamine with which the attempt at poisoning was claimed to have been made. An experiment with the peroral administration of 10–15 mg. to the sentenced woman had given merely moderate, not serious, symptoms of the well-known type, and hence further experiments were to be looked upon as safe. In the literature no instance of death from ingestion of scopolamine has been reported—not even with doses as high as 500 mg. and 300 mg.

The 30 persons employed for these experiments were chiefly nurses, aged from 30 to 69.* In the majority of the subjects the only conspicuous symptom was a moderate dryness of the mucous membranes, accompanied by some drowsiness. The development and intensity of the symptoms may be recorded summarily as follows. In no instance was a stronger effect observed.

1. *Heart Action.*—After 15 to 30 minutes a moderate fall in the pulse rate appeared, often accompanied by a minor rise in the rate of respiration.

2. *Mucous Membranes.*—After 30 to 40 minutes a distinct dryness of the mucous membranes of the mouth and throat was noticed.

3. *Muscles.*—A little later a moderate laxity of the muscles was observed. Convulsions or rigidity were not seen in any instance. A couple of subjects stated, however, that they had some slight jerky sensations in the legs.

4. *Pupils.*—Dilatation of the pupils is said to be the most characteristic symptom of scopolamine action, and hence the subjects were examined very closely for the appearance of this symptom at intervals of 15 minutes. In 19 cases no distinct dilatation could be demonstrated; in 3 cases only, this phenomenon reached a considerable size (7.5 mm.)—after about two hours—and was accompanied by lowered reaction to light. The dilatation of the pupils subsided but slowly.

5. *Sensorium.*—The action on the sensorium was limited to a slight drowsiness in some subjects. The two oldest, aged 69 and 65, presented a slight degree of excitation, with loquacity and giddiness, resembling that seen in moderate alcoholic intoxication.

6. *After-effects.*—Most of the subjects noticed no after-effect at all and slept well during the following night. A few felt a little tired next day, and two noticed a slight dryness of the throat. On the following day a moderate dilatation of the pupils could still be demonstrated in a few of the subjects examined.

After this experiment 4 additional persons were given 4 mg. of scopolamine by mouth. The symptoms were not particularly more pronounced than in the preceding group.

Peroral and Subcutaneous Methods Compared

It was most interesting to compare the features of intoxication here observed when the same subjects were given a subcutaneous injection of 0.5 mg. of scopolamine. In this way it became practicable to settle the question about the proportional effect of scopolamine given perorally and subcutaneously. These experiments were carried out on 14 persons. Only two of them showed an effect of scopolamine identical with that observed after ingestion of 3 mg., perhaps even a little weaker. In the remaining 10 subjects the effect was distinctly stronger after injection of the remedy, in most of the cases even considerably stronger, and it appeared more rapidly too, showing the following picture:

1. The pulse rate and the frequency of respiration were not influenced much more strongly here, but the effect appeared sooner.

2. The dryness of the mucous membranes was noticeably more pronounced, in several cases even much more pronounced—so that, for instance, the subject could not swallow a biscuit without intake of water.

3. Also the effect on the musculature was greater here, and in several subjects it was so marked that it was difficult for them to keep on their feet.

4. Dilatation of the pupil was quite distinct in 8 of the 10 subjects, and impairment of the reactivity of the pupil was demonstrable in 7 cases, considerable in 2.

5. Drowsiness and sleepiness appeared in nearly all the subjects, often accompanied by an inconveniencing dizziness. Symptoms of excitation and confusion were observed in 4 subjects. As mentioned already, the character of this symptom was that of a "drunk." A couple of subjects had slight hallucinations. The symptoms of excitation always made their appearance rather late—at the earliest after two hours.

6. Also the after-effects were decidedly stronger after subcutaneous injection than after ingestion.

Later two of the nurses who had been given 4 mg. of scopolamine by mouth were submitted to an additional test for the effect of 0.5 mg. of the remedy injected subcutaneously. The effect here was about the same as that observed in the 12 subjects first examined.

If we wish to give a numerical expression for the decrease in the effect when scopolamine is given per os instead of subcutaneously, it is obvious that on an average the effect then is at least 6 times weaker, or rather, perhaps, 8 times weaker.

Conclusion and Summary

The effect of 3 or 4 mg. of scopolamine given by mouth to 34 healthy adult subjects was generally rather weak—much weaker than would be expected *a priori* according to the doses officially established as maximal for peroral administration. In a majority of the subjects the effect has to be characterized as insignificant, as chiefly it was limited to a slight dryness of the mucous membranes of the mouth and throat.

A comparative study was made of the variation in the effect of scopolamine when given subcutaneously and per os to 14 of the same persons. The doses here employed were 0.5 mg. given subcutaneously and 3 mg. (in two cases 4 mg.) given by mouth. In 12 cases the effect of 0.5 mg. injected subcutaneously was stronger—in several cases decidedly stronger—than that of 3 or 4 mg. given by mouth. In only two cases was the effect of 3 mg. perorally equal to or perhaps a little stronger than that of 0.5 mg. given subcutaneously.

Judging from these results the efficacy of the drug given by mouth may be reckoned on an average to be about one-eighth of its efficacy when injected subcutaneously.

* For further details see *Nordisk Med.*, 1944, **20**, 793.

Its low toxicity when given per os calls for a revision of the maximum dose of scopolamine—and probably of some other alkaloids too—as fixed by the official pharmacopoeias.

In forensic medicine the consequence will be that no injury can be expected from a dose of 3 to 4 mg. of scopolamine given by mouth. (It was only after 8 years that the nurse was taken before a higher court and, on the basis of this investigation, rehabilitated.)

In all the experimental subjects here employed the symptoms characteristic of scopolamine effects were observed to make their appearance in the same chronological sequence: (1) After 15 to 30 minutes, reduction in the rates of the pulse and respiration. (2) After 30 to 45 minutes, dryness of the mucous membranes of the mouth, nose, and throat; a little later, moderate muscular atony and moderate drowsiness. (3) Pronounced dilatation of the pupils was seen only in a minority of the cases—generally beginning after 60 minutes and reaching its maximum after 120 minutes. (4) Symptoms of excitation were seen in a few cases, especially elderly persons, but not until 120 minutes after ingestion of the drug.

After *subcutaneous injections* of 0.5 mg. the sequence of the symptoms was the same as after peroral administration, but their development was somewhat more rapid and their intensity more pronounced.

CARCINOMA OF THE RECTUM IN SISTERS

BY

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Multiple polyposis of the colon in siblings was first described by Cripps (1882), and Doering (1907) first noted the frequency of malignant change in the condition. The condition is rare, since, although Stewart (quoted by Sawyer, 1940) found polypi in 4% of children, very few of these were multiple. Statements as to the frequency of malignant change vary. In Doering's original series there were 21 carcinomas in 40 cases of polyposis, Sawyer (1940) found malignant change in 40% of cases in a review of several series, while Friedell and Wakefield (1943) found only two carcinomas out of 19 cases. Many of the last series, however, were in children, and would not have been diagnosed without a special search. Genetically determined polyposis may not arise until middle life (Lockhart-Mummery, 1925), and seems to appear earlier in successive generations of the same family (Friedell and Wakefield, 1943). The earlier literature is reviewed by Dukes (1930).

Recently I have observed the following two cases of carcinoma of the rectum in young sisters. One had multiple polyposis of the colon and the other multiple telangiectases. Carcinoma of the rectum in siblings of this age is so rare that one must conclude that there is some connexion between the three conditions. The father of the sisters was killed in 1917, and they were his only children. Their mother is alive, and has three children by a second husband. The eldest of these is 25; all are well, and none have ever had any bowel troubles.

Case Histories

Case 1.—Edith was mentally defective, though she earned her living as a domestic servant. From the age of 4 she was cared for by nuns, who noticed nothing wrong with her bowels. Before this she is said to have had "tuberculous bowels," but her mother can give no grounds for this statement. At the age of 29 she was admitted to hospital with a very vague history of diarrhoea and passage of blood per rectum, was *in extremis*, and died a few days later. At necropsy the body was that of a poorly developed young woman, with foul teeth and many sebaceous cysts of the scalp. There was extensive bronchopneumonia, and a malignant ulcer at the pelvi-rectal junction with metastases in the para-aortic lymph nodes and in the liver. There were many polyps throughout the colon. The intervening mucosa appeared quite normal.

Case 2.—Maud, aged 32, was the sister of Edith. She presented herself at an antenatal clinic, pregnant for the first time, and gave no history of any upset of the bowels. However, a carcinoma of the rectum was discovered, and hysterectomy and colostomy were performed. She died seven months later. At necropsy a mass of growth filled the pelvis, and there were metastases in all the abdominal lymph nodes, the liver, and the peritoneum. Below the hepatic flexure the colon showed numerous minute bright-red telangiectases, each about 2 mm. across, and separated from the next one by 2 cm. of normal mucosa. The rectum was buried completely in the mass of growth, and the exact origin of the tumour could not be determined.

Comment

From the last Census it appears that there were 3,353,100 women alive at that time between the ages of 25 and 35. In the same year 23 women in the same age group died of carcinoma of the rectum (Registrar-General's Annual Report, 1931). On any system of probability it is extremely unlikely that sisters will die of the same condition which has a death rate of only 2.3 out of a population of some 335,000. There would appear, therefore, to be statistical support for the contention that the conditions found in these women's colons were in some way connected and were also responsible for the development of their carcinomas.

I have to thank Mr. G. F. Stebbing and the Chief Medical Officer of the London County Council for permission to publish the second case, and for the kind invitation to perform the necropsy in Lambeth Hospital, where that patient died.

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Medical Memoranda

Jejunal Diverticulosis Complicated by Haemorrhage

The following case may be considered unusual enough to merit publication.

CASE HISTORY

A man aged 73 was admitted to hospital on May 26, 1945, with a history of severe rectal haemorrhage for 24 hours. The onset was sudden and painless, the blood being dark at first but bright in colour later. He had had no previous attacks and had been in perfect health until three months previously, when he had developed pain in the upper abdomen two to three hours after meals, anorexia, flatulence, and slight loss of weight.

On admission he showed all the signs and symptoms associated with severe haemorrhage; the blood pressure was 80/50 and the haemoglobin 52%. A transfusion of 3 pints (1.7 l.) of blood was given. After passing several melaena stools his condition settled down. The following investigations were carried out: (1) A test meal showed complete achlorhydria. (2) A barium meal revealed a hypotonic but otherwise normal stomach; the diverticula were not visible, but there was slight delay and partial obstruction in the upper jejunal coils. (3) A barium enema showed diverticulosis of the descending and the pelvic colon.

A laparotomy was performed on June 26. Eight diverticula were found in a segment of 14 in. (35.5 cm.) of the proximal jejunum, the first one being situated 4 in. (10 cm.) from the duodeno-jejunal flexure. The largest of these was 1½ in. (3.8 cm.) in diameter and contained a stony-hard and sharp concretion; the diverticulum stood out from the others and was discoloured, while the surrounding mesentery was congested. The rest of the intestinal tract was carefully examined and no further abnormality was found other than diverticulosis of the colon, seen in the skiagram. Resection of the affected loop with an end-to-end anastomosis was performed. A post-operative glucose-saline drip was set up and continuous gastric suction maintained for five days. The patient was discharged from the hospital on Aug. 8, and has been perfectly well since.

DISCUSSION

Diverticulosis of the jejunum is a relatively rare condition, though it is possible that many cases are overlooked, as they are often symptomless and may be difficult to demonstrate at necropsy. By insufflating the intestine *in situ* Rosedale and Lawrence (1936) found 4 cases in 300 consecutive necropsies. The diverticula are of the mucous-membrane-hernia type, similar to those found in the duodenum and colon. They may be single or multiple, as many as 400 having been present in a single case. The upper coils of the jejunum are affected most commonly, but the diverticula may extend on to the ileum. They occur along the mesenteric border where the main arteries pierce the muscular coats, and they push their way between the layers of the mesentery.

The first description appears to have been made in 1807 by Sir Astley Cooper, who found numerous pouches of the jejunum at a post-mortem examination on a man of 65. The aetiology

and incidence have been discussed in recent years by Butler (1933), Fraser (1933), Rosedale and Lawrence (1936), and Edwards (1939). Gerster (1938) reviewed the literature and found 187 published cases. Of these the majority were discovered accidentally at necropsy, during operations for other conditions, or during radiological examinations. Since then several more cases have been described by Edwards (1939) and Milnes Walker (1945). Flatulent dyspepsia and vague upper abdominal pain are among the symptoms present.

The complications of jejunal diverticula are as follows. (1) Acute diverticulitis, with or without perforation, abscess formation, or intestinal obstruction. This is the commonest complication, and 23 cases have been reported. (2) Acute intestinal obstruction due to concretion formation or volvulus (9 reported cases). (3) Traumatic rupture (1 reported case—Butler, 1937). (4) Haemorrhage: Guthrie and Hughes (1937), Tengwall (1931), and Braithwaite (1923) described cases in which haemorrhage was the leading symptom. In each instance the diagnosis was made at operation and recovery followed resection of the affected portion.

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Small-bowel Obstruction due to Dried Fruit

In view of the cases of obstruction by dried fruit reported in the *Journal* last year, it was felt that a further case might be of interest. As in the case reported by Dorling (*B.M.J.*, 1945, **2**, 426), the obstructing cause was a dried peach.

CASE RECORD

The patient, a woman aged 71, was admitted on April 22, 1945, complaining of abdominal pain and vomiting. Her history showed that she had been constipated for the 60 hours before admission. Her bowels had previously been regular. The vomiting had started 60 hours before admission, and had occurred six or seven times on the first day. The vomit was green in colour. In the 24 hours preceding admission she had vomited twice. The vomit was now brown. For 17 hours before admission attacks of abdominal pain occurred every five to ten minutes, and these were relieved by vomiting. The pain was localized to the umbilicus. Twenty years ago she had been advised to have a cholecystectomy, but had not undergone the operation. She had never been jaundiced, and had never had a similar attack before.

On admission her temperature was 98.4° F. (36.9° C.), pulse 100, respiration rate 20, and blood pressure 160/90. The tongue was dry and furred. Examination of the abdomen revealed no undue distension, visible peristalsis, or sign of a hernia. On palpation there was slight tenderness in the left iliac fossa, otherwise nothing abnormal was found. Intestinal sounds were not increased. Plain skiagrams in the supine position demonstrated gaseous distension of three loops of bowel in the left iliac region. In view of her poor general condition operation was deferred; an intravenous drip of glucose-saline was started, and gastric suction carried out through Ryle's tube. The pain had not recurred after she came into hospital. Twenty-four hours later she again complained of abdominal pain and her abdomen was more distended. Her general condition had, however, improved. Increased intestinal sounds were now associated with the colic, and were heard best in the left iliac region. In view of her past history, gall-stone obstruction was diagnosed.

At operation the abdomen was opened through a right paramedian incision, under a spinal analgesic—2 ml. of heavy percaine. A small quantity of free fluid was present in the peritoneum, and a soft mass palpated in the left iliac fossa was found to be in the ileum, 2 ft. (30 cm.) from the ileo-caecal valve. The bowel above this mass, which was about 3 in. (7.6 cm.) by 1½ in. (3.2 cm.) in dimensions, was dilated, and, below, was collapsed. The mass was easily pushed up into the proximal dilated bowel and was removed through a longitudinal incision through the bowel wall. The bowel was closed in two layers transversely. The patient made a good recovery and was discharged on May 22, 1945.

On questioning her during convalescence she admitted that she had been preparing dried fruit five days before her admission and had nibbled at a dried peach. She was not very definite whether or not she had swallowed this, but the supposition was that, as she had only one tooth in her head, an upper incisor, this was indeed the case, since the mass itself, when opened out, very closely resembled the half of a peach.

My thanks are due to Mr. T. Meyrick Thomas, under whose care the patient was, for permission to publish this case.

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Reviews

ORTHOPAEDIC TREATMENT OF INFANTILE PARALYSIS

Traitement Orthopédique de la Paralysie Infantile. By M. Boppe. (Pp. 222; 118 figures. 170 francs.) Paris: Masson et Cie.

This work is said to be based upon the experience of ten years in observing, treating, and following up a large number of cases of infantile paralysis. As such it might be expected to be narrow in outlook—actually it does reflect admirably the views and methods of the great French school of orthopaedics. It is a pity that the literature of our two countries is not more readily available. Orthopaedics in general owes much to the great French pioneers, from Delpeche, André, Malgaigne, and Bonnet down to the present day. It seems that in Britain we still have something to learn from our neighbours, but this book also suggests that our friends should be more familiar with our literature. The treatment of infantile paralysis should be based upon accurate recording of muscle loss. Anglo-American methods of recording muscular activity are apparently not used in France. A vast section of the field of orthopaedics is covered with characteristic French thoroughness. It illustrates once more that mastery of the orthopaedic problems of infantile paralysis provides a fundamental training for the would-be orthopaedist, including as it does questions of diagnosis; careful clinical examination of the locomotor system; the prevention of deformities, and the limitation of disability; the use of orthopaedic apparatus; operative surgery; rehabilitation in all phases, and resettlement of the disabled.

FOOD AND NUTRITION

Science and Nutrition. By A. L. Bacharach, M.A., F.R.I.C. Preface by Sir J. C. Drummond, F.R.S. (Pp. 142. 5s.) London: C. A. Watts and Co., Ltd.

The first edition of Mr. Bacharach's book was referred to at length in a leading article published in the *Journal* of Oct. 29, 1938, under the heading of "Food and Nutrition." We said then that it provided a refresher course in "classical nutritional science." In his second edition the author has done more than "repeat the mixture as before," because the book has been thoroughly revised and in parts rewritten. It is written in good strong English, and in these days, when problems of nutrition weigh so heavily upon us all, we can think of no surer guide to the practising doctor who wants to know the why and wherefore of diet constituents. Mr. Bacharach has the gift of thinking clearly and expressing his thoughts clearly. He takes the reader firmly along the path of exact knowledge, and gives him a real insight into the way the nutritional scientist tackles the matter of food and feeding. His sectional headings describe the scope of the book: "The Experimental Basis"; "Classical Nutritional Science"; "Minerals"; "Vitamins"; "Diet and Human Health." He has certainly succeeded in carrying out his object of steering "a very careful course between scientific inexactness on the one side and excessive detail on the other."

There are but a few points of criticism to make. His observation that "faeces are not really excreta at all—since they represent food that has not been digested at all or those parts of the food that have not" might be challenged. For example, faeces continue to be formed during starvation, and also form in a segment of bowel isolated from the rest of the intestinal tract. Although we may believe that partial deficiencies may be responsible for much "general ill-defined bad health," the evidence is not secure enough to justify the dogmatism implied in Mr. Bacharach's remarks.

In his last chapter, "The Necessity for the Optimal," he admits that he lays himself open to the charge of dogmatism. Few people would disagree with him that the optimum, and not the minimum, diet is the one to aim at for all, or that "a far greater improvement would result from securing that all who serve the community by working are so remunerated as to make adequate expenditure on food possible for all." But surely it is inaccurate to state that an optimum diet "is immeasurably beyond the reach of the average, or *even the best paid*, urban industrial worker . . ." (our italics). An

analysis of what the worker spends on food, tobacco, alcohol, and the cinema would give a measurement of the value the worker places on these items in the domestic budget.

Taken all in all Mr. Bacharach's book is astonishingly good value for the modest sum of five shillings, at which the publishers have priced it. We can think of no better handbook for that overworked man the general practitioner of medicine.

UROLOGY

The 1945 *Year Book of Urology.* By Oswald S. Lowsley, M.D., F.A.C.S. (Pp. 415; illustrated. $3.00 or 18s.) Chicago: The Year Book Publishers; London: H. K. Lewis and Co.

The series of yearbooks emanating from Chicago is by now so well known that no general description of the latest one is necessary. That volume which deals with urology will be particularly useful to those who, because of war service, have been out of touch with their specialty and are anxious to discover what advances have been made in it during their absence. But the method of classification adopted by the editor does not make this as easy as it might have been. If any criticism is to be made of an otherwise excellent work it is that greater prominence should have been given to the more important advances in diagnosis and treatment. This would have allowed the reader to discover at a glance what was of vital importance to him and what was merely of interest. For example, instead of being dispersed throughout the text, unusual cases and rare complications could have been brought together in a separate chapter. It would also have been valuable if the chief lines along which urology had advanced could have been indicated in a preface. In spite of the war progress has been made, for example, in the treatment of carcinoma of the prostate and in the use of penicillin in combating certain urinary infections. Apart from the criticism made about the method of presenting the material, the 1945 volume of the *Year Book of Urology* is as valuable and as well produced as its predecessors.

ANIMAL PHYSIOLOGY

Physiology of Farm Animals. By F. H. A. Marshall, Sc.D., LL.D., F.R.S., and E. T. Halnan, M.A. Third edition. (Pp. 339; 119 illustrations. 18s.) Cambridge: University Press. 1945.

Part of this book reflects Dr. Marshall's eminence in the study of reproduction (67 pages) and Mr. Halnan's accomplishments in nutrition and growth (53 pages). But the 205 pages of systematic physiology do not fulfil the expectations of those who read in the preface that "the book is specially intended for students of agriculture who wish to obtain some knowledge of the processes of physiology as they occur in the domestic animals." Processes as they occur in *man* are too frequently described—an unnecessary lapse for anyone who is conversant with the literature of veterinary physiology of the past 85 years. The text reflects an unawareness of what animals do and how they do it; we listed 32 factual errors. For instance, the tuberculin test is incorrectly described (p. 144). The grazing horse does not "bite off the grass with its incisor teeth" (p. 48); with its incisor teeth the horse grips the grass and then by a jerk of its head it tears off the grass. The temperature of the normal fowl in Great Britain is not 101–6° F. (p. 142); it is 104.5° F. We are not aware that "horses whose legs become swollen or oedematous through much standing may often be cured by moderate exercise" (p. 104); can the swelling be due to the authors' belief that "the cartilage [articular] is covered by the synovial membrane" (p. 173)? The statement that "salts taken in excess of the physiological optimum are . . . rapidly excreted" (p. 305) is at variance with current notions of toxicology—e.g., NaCl poisoning. The text is sprinkled with nebulous negatives—e.g., "the pig is not purely herbivorous" (p. 58); "sugar is rarely or never present in horse's urine" (p. 134); "crude fibre is but poorly digested by the bird" (p. 80).

Students desiring reliable information on the physiology of the domestic animals should read the late Sir Frederick Smith's *Manual of Veterinary Physiology*, first edition 1892, fifth edition 1920. Smith blended an extensive experience of animals and their behaviour with systematic physiology; also he acknowledged the work of his eminent predecessors as far back as Prof. Colin of Paris, "the father of veterinary physiology," and those distinguished pioneers in animal nutrition, Sir John Lawes and Sir Joseph Gilbert of the Rothamsted Experimental Station.

RACIAL DIFFERENCES

Man's Most Dangerous Myth: The Fallacy of Race. By M. F. Ashley Montagu. With foreword by Aldous Huxley. Second edition, revised and enlarged. (Pp. 304. $3.25 or 22s.) New York: Columbia University Press; London: Oxford University Press. 1945.

The speculations, the beliefs, and the practical deductions of race theorists have, to put it mildly, suffered something of a set-back in recent years. We have, moreover, been fortunate in this country, as compared with most, in that problems of racial differences have troubled us relatively little. This book, a second amplified edition, comes from the United States, where the colour issue bulks large in practical politics, and Semitism or anti-Semitism are far from unimportant even though seldom emerging into public discussion. It seems to have been written at white-heat and the effect is curiously exhausting; there is too much banging at open doors, too much tilting at windmills, too much struggling up icy slopes with banners bearing a strange device.

The general theses of the book are in the main sound enough, or at the least much sounder than the race-theories Dr. Ashley Montagu sets out to attack. A more temperate refutation of unsound opinions, the avoidance of confusing repetition, and a clear exposition of present-day scientific findings and views might have produced a good book. Those who are already converted, and who hold strong emotional views on the subject, will be delighted with Dr. Montagu's polemical presentation. Others of similar type of mind may become converted. Those of more judicial temperament will wonder whether one flat assertion is more convincing than another—whether, for example, the bald statement "The mule combines most of the good qualities of its parental stocks" is more convincing at sight than would be its converse. They will wonder whether some of the scientific men the author castigates can really have been such fools and whether their opinions can have been quoted quite fairly. Dr. Ashley Montagu had a good case but has unfortunately gone a long way towards spoiling it.

Notes on Books

In *Penicillin: A Dramatic Story*, Dr. BORIS SOKOLOFF is, needless to say, writing for the general public. His style may be deduced from the title: in general his account is correct, though marred by some inaccuracies, such as the completely imaginary definition of the unit of penicillin on p. 26. American sources have provided most of his information, and part of the story of early developments in the U.S.A. may be new even to informed English readers. The book is published at 7s. 6d. by George Allen and Unwin.

The most recently issued Bulletin (No. 5, 1945) of the Department of Labour and National Service of Australia is entitled *Amenities in Wartime Factories.* It gives brief information about the arrangements that have been found to be the most satisfactory in leading Australian factories, both large and small. It discusses lockers and change rooms, washing facilities for hands and feet, and the provision of showers for workers employed in arduous and dirty work. The equipment of first-aid rooms is given in some detail, as is that of mess rooms. Ventilation and lighting are briefly discussed, and the whole of the Bulletin is very well illustrated. In the words of the introduction to the pamphlet, "All this represents a considerable forward step from the days of dark and dingy factories when employees had no rights and no amenities."

The Official *Medical Register* for 1946 has been published on behalf of the General Medical Council by Constable and Co. (Orange Street, W.C.2) at 21s., post free 22s. The table printed in the introductory section shows that 2,666 names were added last year. New registrations numbered 1,268 in England, 581 in Scotland, 428 in Ireland, 124 on the Colonial Register, and 265 on the Foreign Register. The total number of names on the *Register* at the end of last year was 75,133, being 1,487 more than on Dec. 31, 1944. The total number at the end of 1935 was 58,361, and at the end of 1925 it was 51,738.

The National Physical Laboratory has published a pamphlet *Tests on Volumetric Glassware*, prepared by its Metrology Division. The regulations governing Class A tests are designed to meet the requirements of apparatus intended to possess the highest accuracy. The Class B regulations are intended to set a standard for vessels of good commercial quality, satisfactory for general use. The pamphlet gives a list of verification fees and other charges, and notes on procedure. Any reader who wishes for a copy can receive one on application to the director, National Physical Laboratory, Teddington, Middlesex.

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PAUSE FOR DEBATE

We go to press this week in the middle of two of the most important discussions since 1911 affecting the future of medicine. Full reports of the Special Representative Meeting and of the Second Reading debate on the National Health Service Bill will appear in next week's *Journal*. The substance of the speech of the Minister of Health, opening the Second Reading of the National Health Service Bill on Tuesday, is reported elsewhere in this issue.

In order to fix discussion on the main issues, the Agenda Committee for the Special Representative Meeting on May 1 starred certain resolutions submitted by Divisions. A summary of these will show the general direction of the debate. An amendment by Preston is in favour of the proposed form of local administration for general practitioners and regional administration for hospitals, whereas Liverpool advocates the principle of regional organization for all health services. Another pair of opposite amendments refers to the ownership of hospitals. Oxfordshire adopts the disputed resolution of the Consultant Services Committee in favour of State ownership of hospitals provided that the constitution of the regional boards is acceptable to the profession; Marylebone, however, views with disfavour the proposed transfer of hospitals and "the consequent destruction of local interest in hospital services, and the confiscation of trust funds intended by donors for specific purposes." On the question of buying and selling practices Hastings approves of the proposed abolition of this custom provided adequate compensation is paid in respect of loss of capital values. This is supported by Leeds, in the form of not being opposed to the Government's proposal provided "terms of service and remuneration satisfactory to the profession be first agreed." Bradford, on the other hand, "regards as elementary the right to sell and buy practices as at present." Paddington considers that the measures proposed in the Bill for the distribution of doctors are reasonable, but West Suffolk amends "that there shall be no control over doctors in regard to the choice of area in which they shall practise." Payment by an adequate capitation fee, without a fixed part-salary and without restrictions, is recommended by Newcastle-upon-Tyne and Tyneside; remuneration of general practitioners by basic salary plus capitation fees—both of which must be acceptable to the profession—is advocated by Oxfordshire.

On the general attitude to the Bill and the Act to come, Harrow, Guildford, and Rugby urge that a plebiscite or a referendum to the whole profession should be taken, either forthwith or later. Guildford and Rugby move that a referendum should be taken immediately, before the passage of the Bill into law. Harrow moves "that before the Council recommends practitioners to accept or to refuse service under the Act, a plebiscite of the whole profession should be taken in a form to be approved at open meetings of the profession." Division of opinion on the Bill as a whole is represented in the motions by City on the one hand, and by Goole and Selby and by Gateshead on the other. City "regards the National Health Service Bill as an important step towards the provision of a comprehensive service available to the whole community, and therefore approves its general framework." The rejection of the proposed enactments of the National Health Service Bill in their entirety is moved by Goole and Selby. Between these two extremes, Gateshead disapproves of the methods proposed in the Health Bill to achieve the agreed ends of improving and co-ordinating the existing medical services. Criticism of the Minister for not entering into a discussion of principles and details with the Negotiating Committee before the Second Reading of the National Health Service Bill is voiced by Kingston-on-Thames. The outcome of the debate on these resolutions will in considerable measure define the attitude of the majority of doctors to the present Bill and will afford a useful pointer to the probable reactions of the medical profession to the Act under which it will be expected to serve.

Criticism of various aspects of the Bill comes from another quarter in the form of comments made by Mr. Frank Byers, M.P., on behalf of the Liberal Parliamentary Party, which welcomes the proposal to set up a health service which will be available to all, irrespective of their means. It is denied, however, that the Bill justifies its claim to establish a comprehensive service. Liberals would have favoured "a true comprehensive charter of health dealing with the three matters concerning health—namely, (*a*) the prevention of disease, (*b*) the maintenance of health, and (*c*) the cure of disease." The present Bill, it is stated, deals only with the third of these. The principal criticism of the Liberals is that far too much is left to regulation, with the result that the Minister can make drastic changes in the service and modify initial arrangements. This deprives Parliament of adequate control over the development of the health service and of adequate supervision of the actual provisions of the Bill. The democratic principle of the Liberal report has been largely abandoned in the Bill, in that the Minister appoints the Committees, which are not to be elected by either professional bodies or the public. The Liberals consider that both voluntary and municipal hospitals should have their basic needs met from State funds, but should be allowed to raise money locally for the provision of special amenities and for research and experiment. "Local enthusiasm should be encouraged to express itself in this way by gift and endowment for special amenities and facilities over and above the general standard." We should take warning from the Liberal view that there is no adequate safeguard in the Bill for the medical profession: "If the major part of their remuneration is to be by salary rather than by capitation fee there is a serious danger of the doctor being

reduced to the rank of a salaried civil servant." The Liberal Party also considers that there is insufficient safeguard for the rights of the public to make complaints concerning hospital treatment; to remedy this it suggests the appointment of special public relations officers to the regional hospital boards and hospital management committees, "not only to publicize the work of the hospitals but to provide a channel through which the boards and committees may be directly approached by members of the public in order to have their grievances ventilated and rectified." The omission of the industrial medical service from the scheme is criticized as "a most retrogressive factor which tends to label the Bill as a purely curative instead of preventive measure." A further criticism is that inadequate attention in the Bill is given to the profession of nursing, midwifery, and domestic service.

In his speech before a crowded House of Commons on Tuesday Mr. Aneurin Bevan showed himself to be insensitive to the many criticisms levelled at the major issues raised by the Bill. He defended the proposed transfer of all hospitals to State ownership as the only method of securing a co-ordinated and planned hospital service. He left unchanged the powers of direction of the Medical Practices Committee, and the proposal to pay general practitioners part by salary and part by capitation fee. He resisted the suggestion that has come from many quarters that the administration of all treatment services should be at the regional level. His observations on these and other features of the Bill will be found at page 690 The debate continues.

THE HERITAGE OF DISABLEMENT

The League of Nations is being wound up, but one part at least of the Treaty of Versailles continues to operate vigorously. This is the part under which the International Labour Office was created in 1919, and although the headquarters of that body now look out upon the St. Lawrence instead of upon Lake Geneva it is promoting international collaboration in the field of industry as effectively as a disjointed world will allow. If what it puts out is often incomplete and late in arrival, that is due to the tardiness of national Governments and their employers' and employees' organizations. One of its latest pieces of work, assembled in six months—which is quick time for any international document—is a preliminary report of 300 pages on the training and employment of disabled persons.[1] The survey was planned on comprehensive lines: to assess the extent of this problem in different countries, the administrative organization so far as any has been set up, the procedures for medical and vocational rehabilitation and the co-ordination of the two, and for training, retraining, and sheltered employment. It is disappointing that so few countries are making a contribution. Almost all the information comes from Great Britain and the Dominions, Soviet Russia, and Scandinavia, one or two small countries in Western Europe, and the United States and a few South American republics; yet in some of the countries not recorded there must be an enormous mass of war disablement not only unprovided for but even unassessed. It is true that there is an appendix giving an account of the highly efficient scheme for the rehabilitation of disabled soldiers in Nazi Germany. It was set up in 1940, and in 1944 it was reported that only 15% of all war-disabled men had to be trained for an occupation different from their former one; more than 60% were able to return to their old places, and 15% were trainable for higher posts. All that, however, is of historical interest only, and what the conditions are now in the ex-enemy and liberated countries of Europe this survey does not tell us.

Even from the countries which do furnish reports on the subject no very clear picture emerges. No country seems to have more than fragmentary statistics, though enough has been collected to show that the problem is formidable. A legislative committee in the United States has found that the physically impaired "constitute an enormous segment of our population." Everything depends, of course, on where the line is drawn. As yet there is no clear identification of the disabled. If the term is used in its widest sense it may be held to cover a very large proportion of all citizens. Sweden, with a population of some seven millions, lists no fewer than 480,000 disabled persons, and these include "punished" persons, meaning those who have served a prison sentence, also the alcoholic, the so-called over-age, the nervous, and the hard of hearing. On the other hand, Australia limits its classification to those who have been injured either in the Forces or in other services of the Commonwealth. Some countries object to the term "disabled" altogether because it implies a separate classification which it is alike impossible and undesirable to delineate in practice.

What, after all, is a disability? It does not necessarily imply vocational handicap, and vocational handicap may be brought about by a disability which cannot be defined or measured. Some disabilities may prevent employment in certain occupations, but may even be an advantage in others. A report by the U.S. Civil Service Commission states that workers with limited or no hearing are preferred by many employers for noisy jobs, such as those of boilermaker, riveter, and welder. Persons of tiny stature have been found extremely useful in aircraft plants, to do the final riveting in the tight corners of wings and fuselages. We have heard of a luxury hotel which bars pageboys who wear glasses, but welcomes, if not insists upon, spectacled receptionists. A minor disability in some circumstances may mean a far greater handicap to employment than a severe one. The same type of disability may mean a serious handicap for one person but not for another, owing to differences in personal qualities, skills, or interests; and it needs the wisdom of Solomon and the patience of Job to decide how much inefficiency in a given case is due to a physical disability and how much to lack of character or "guts." The worst kind of case is found in the man who, to quote an American employment commissioner, "has had time to kid himself that he is unemployable."

In this country the history of rehabilitation, apart from some isolated, though excellent, efforts, may be said to go back for no more than five years. It began in the Services—in the R.A.F. even before the Battle of Britain—and it

[1] International Labour Office. Studies and Reports: Series E (The Disabled), No. 7. Montreal, 1945. ($1.50. or 6s.)

has been slow to come into civil life. But ideas on the subject are clarifying, and we now conceive rehabilitation as beginning immediately after the accident or whatever caused the disability and continuing until the man is again on the pay-roll. It includes good surgery, convalescent care, remedial and other exercises, bringing in all that is meant by positive health, and going on to resettlement, with vocational guidance, job analysis, training or retraining, placement, and social medicine. Under the Disabled Persons (Employment) Act, 1944, routine employment for the disabled becomes a matter of right instead of charity. In this country we have—what they lack in many countries—the administrative responsibilities entrusted to one Government Department, the Ministry of Labour, instead of being spread over a number of agencies. The whole subject has been closely studied by a special committee of the British Medical Association, whose findings will be published in the near future.

A difficulty in several countries, brought out in the survey by the International Labour Office, is the unwillingness to make medical reports a matter of routine for persons applying for help in obtaining suitable employment. Many disabled persons feel, naturally enough, that medical reports will emphasize what they cannot do rather than what they can do, and so they may be stigmatized and placed in a permanent category of unfitness. In Great Britain the confidential medical report provides the basis of the rehabilitation officer's action; but it is not compulsory, and it is open to the man to ask instead for an independent medical examination. In the United States, though medical reports are not compulsory by law, they are so in fact, because they are an essential preliminary condition of eligibility for rehabilitation. Medical follow-up work is carried out in Great Britain, where it is the responsibility of the medical authorities, but it is the exception rather than the rule elsewhere. Hospital or convalescent-centre interviewing seems to be winning general favour, and is said to be extended widely in the Soviet Union, where also special conditioning centres are part of the organization for the disabled, as they are in British countries and in the United States. The most cheerful part of this preliminary survey is a chapter which brings together a very large number of instances of work actually undertaken by the disabled. There seems to be no type of deformity or mutilation which, after careful treatment and adjustment, cannot be matched with some type of job—clerical, mechanical, skilled-trade, technical, scientific, or professional. The United States Civil Service Commission, already quoted, states that workers with deformities of the spine are being successfully employed in a wide variety of work in which no heavy lifting is required, that persons with arrested tuberculosis are working well in any number of positions calling for light, moderate, and semi-arduous duties, provided the environment is favourable (for example, free from fumes and dust), and that organic heart cases suitably compensated often excel in positions involving desk or bench duty and in machine-shop and drafting work. As experience is gained and as more countries are able to follow a constructive rehabilitation programme the I.L.O. hopes to report adequately. At present few countries can make any claim even to completeness in outline, let alone detail. The organization of sheltered employments is still in the early stage of development, though the significant thing is the general acceptance of the need for such provision. The same is true of placement arrangements: a few years ago such things were unknown, but now a number of countries are establishing placement machinery designed to work in a manner both scientific and humane. In Great Britain the employment exchange network has been reinforced by the setting up of a national advisory council and local committees which include representatives of employers and workers as well as others with experience of placement work. Finally it is well to be reminded that even the most complete and satisfactory plans for rehabilitation wait upon the maintenance of a high and stable level of employment.

EXAMINATION OF THE TONGUE

The tongue ranks with the pulse and the temperature as one of the primary objects of attention in the examination of patients, but according to Frantzell and co-workers[1] no systematic study of the gross aspect of the tongue appears to have been made with the aid of a detailed photographic analysis. They base their own report on the clinical and photographic examination of some 1,500 tongues.

The most important variations from the normal are the dry, the coated, and the smooth tongue. Loss of body fluids produces a dry tongue, and perhaps the greatest value of routine inspection of the tongue is the evidence it may present of dehydration. The coated tongue is chiefly due to overgrowth of the filiform papillae, which are normally worn short by mastication. Enlargement of the fungiform papillae gives rise to the strawberry tongue which is characteristic of scarlet fever; the cause of the enlargement is not known, but it may be oedema of the lingual papillae. A smooth tongue is due to atrophy of the papillae; it was the commonest abnormality in Frantzell's group of cases. It is found characteristically in idiopathic hypochromic anaemia and pernicious anaemia, but it is also common in thyrotoxicosis, cardiac decompensation, and after pneumonia. There seems to be no causal connexion between a smooth tongue and the wearing of false teeth, though naturally the two conditions are often found together. The smooth tongue of hypochromic anaemia regenerates rapidly on treatment with iron, so rapidly in fact that it is probable that we are not dealing with an improvement caused by increased haemoglobin values. It is easier to assume a peripheral action of the iron on the tissues. The same is true of the response to liver therapy in pernicious anaemia. The common factor in these various causes of smooth tongue is probably a disturbance in the oxidative processes of the cells of the papillae. Iron enters into the composition of a number of the respiratory ferments, and the same is true of riboflavin and nicotinic acid. The cells therefore atrophy when they are starved of iron or these two vitamins. Heart failure produces anoxaemia; acute infection depresses the serum iron, and hyperthyroidism increases the metabolic demands of the cells. Thus the tongue may be regarded as an indicator of both the hydration and the oxygenation of the tissues. The precise mode of action of the anti-pernicious anaemia factor can as yet hardly be guessed, though it is suggested that it may stimulate the proliferation of the epithelial cells, as it does those of the bone-marrow.

[1] Frantzell, A., Törnquist, R., and Waldenström, J., *Acta med. scand.*, 1945, Fasc. III, **122**, 207.

The scrotal tongue does not appear to have much significance. Frantzell believes this condition can be subdivided into two groups—the deeply furrowed tongue or *lingua plicata*, and the mamillated tongue. *Lingua plicata* is found in normal individuals. A mamillated or hummocky appearance of the tongue is often seen after regeneration of an atrophic mucosa. A smooth tongue often goes with an atrophic gastric mucosa, and it is possible that a mamillated tongue may accompany the *état mamelonné* which gastroscopists have described in the stomach.

CONSTRICTIVE PERICARDITIS

The cardinal clinical features of constrictive pericarditis —certain of which were described in England by Richard Lower[1] in 1669, more than two centuries before the work of Pick,[2] whose name is so often applied to it—are well established—dilated pulsating veins, oedema, ascites, liver enlargement, immobility of the heart, and dyspnoea. But the morbid physiology of the circulation which produces these has only lately been clarified by Blalock and Burwell,[3] Heuer and Stewart,[4] and Hitzig.[5] The most important effect of the constriction of the heart by its cuirasse of thickened and sometimes calcified pericardium is a limitation of diastole; the capacity of the pump is reduced, and its delivery is consequently restricted. The cardiac output per beat and per minute is lessened, the circulation rate slows, the systolic and pulse pressures fall, and the heart can respond to exercise only by acceleration. These alterations in the arterial circulation induce a progressive "inflow stasis" on the venous side; the veins dilate and may pulsate, and the venous pressure rises. The main brunt of the venous stasis falls upon the liver, perhaps because basal cardiac adhesions hold wide open the orifices of the valveless hepatic veins.

The radiographic signs of constrictive pericarditis may be misleading unless films are supplemented by screening (Sellors[6]) and by tomography (Meier[7]). In general the heart shadow is small with broadening in its upper part from distension of the superior vena cava and innominate veins; pulsation is diminished, and there is a reduced excursion of the aortic arch, ascension of the heart with deglutition, and, sometimes, calcification in sheets, plaques, or bands. Calcification may, however, mimic or be mimicked by calcification in a myocardial infarct, in an aneurysm, in a mural thrombus, in a coronary artery, or in annular fibrosis round the mitral orifice (Hohenner[8]); it should be remembered that constriction may occur without calcification, and calcification without constriction (Sellors). Even the reduction of the size of the heart, once regarded as a cardinal sign, is not invariably obvious, for it may be obscured by the shadow of a greatly thickened pericardium (Sellors). The only certain radiological feature is a diminished excursion of pulsation which may be quite localized, and must be sought by screening all available aspects of the heart outline.

The surgical treatment of constrictive pericarditis has become progressively safer since Heuer and Stewart[4] in 1939 reported an immediate operative fatality rate of 33%, and a later fatality rate of 10% in 143 collected cases. T. Holmes Sellors[6] has now reported 5 cases with 1 post-operative death. Against this mortality it may be argued that without operation the disease may be compatible with long and active survival—Nils Finsen[9] suffered from it for 21 years and won a Nobel prize. Yet in general it produces a crippling disablement if untreated. Sellors employs a transpleural approach through the fourth left interspace. He removes both parietal and visceral pleura, starting his dissection over the right ventricle, but proceeding quickly to free the left ventricle also, to avoid sudden engorgement of the lungs. Cardiac arrest (preceded usually by warning extrasystoles) and haemorrhage (from opening of the heart cavity) are the main immediate dangers, and there is some risk of cardiac dilatation and ventricular fibrillation later.

After operation, though the pulse pressure rises to normal almost at once, the venous circulation responds more slowly, but amelioration of symptoms is usually greatly out of proportion to the improvement in signs. Irregularities of rhythm present before operation usually persist after it, but irregularities which arise during operation are generally transitory. In all four of Sellors's successful cases the patient recovered full capacity for exercise, though one developed a cold abscess in the thigh 3½ years after pericardiectomy. The possibility of operative intervention reawakening a latent tuberculous process cannot be entirely disregarded, for there is reason to believe that constrictive pericarditis is of tuberculous origin more often than was formerly supposed (White,[10] and Blalock and Burwell[3]). Sellors indeed regards tuberculosis as the most important cause of constrictive pericarditis.

1 *Tractatus de corde*, London, 1669.
2 *Z. klin. Med.*, 1896, **29**, 385.
3 *Surg. Gynec. Obstet.*, 1941, **73**, 433.
4 Ibid., 1939, **68**, 979.
5 *J. Mt. Sinai Hosp.*, N.Y., 1942, **8**, 625.
6 *Brit. J. Surg.*, 1946, **33**, 215.
7 *Schweiz. med. Wschr.*, 1945, **75**, 479.
8 *Fschr. Röntg.-Strahl.*, 1940, **61**, 16.
9 *Ugeskr. Laeg.*, 1904, **11**, 145.

MEDICAL ABSTRACTING SERVICE

At its meeting on April 3, 1946, the Council of the B.M.A. accepted the recommendation of the Journal Committee that a medical abstracting service should be set up in the Editorial Department of the *British Medical Journal* under the general direction of the Editor.

The staff for this service has yet to be appointed; and the conditions of appointment are described in the advertisement columns of this week's *Journal*. The service will be the direct responsibility of a medical Editor of Abstracts and a medical Assistant Editor. The appointments will be on a whole-time basis, and we would draw the attention of medical men interested in this kind of work to the terms of the advertisement. It is hoped that work on the project will begin in July of this year, so as to make it possible to publish the first two issues of the proposed new abstracting journals in January, 1947. The aim is to provide a comprehensive abstracting service of the world's medical literature in the form of one monthly journal devoted to medicine, and a second to surgery, gynaecology, and obstetrics. These two monthly journals will be much on the same lines as the *Bulletin of War Medicine*, which ceases publication in August of this year. In addition, it is proposed to supply special abstracting sections to the Editors of the quarterly journals published by the Association, and a general section weekly to the *British Medical Journal*—a continuation in a modified form of the Key to Current Medical Literature which had to be discontinued when war broke out in September, 1939. We take this opportunity of drawing attention also to another advertisement, for a medical subeditor for the *Journal*.

On April 25 Dr. T. F. Fox, Editor of the *Lancet*, was elected a Fellow of the Royal College of Physicians of London under the by-law relating to persons not Members of the College who have distinguished themselves in any branch of the science or practice of medicine and who have been nominated by the Council as specially eligible.

10 *Lancet*, 1935, **2**, 539, 597.

THE MINISTER'S SPEECH

HEALTH SERVICE BILL

Mr. ANEURIN BEVAN moved the Second Reading of the National Health Service Bill in the House of Commons on April 30. The Minister said that in the last two years there had been such a clamour from sectional interests in the field of national health that they were in danger of forgetting why the proposal of a National Health Service was brought forward at all. The scheme which anyone must draw up dealing with National Health must necessarily be conditioned and limited by the evils it was intended to remedy. The first reason why a health scheme was necessary at all was because it had been the firm conclusion of all parties that money ought not to be permitted to stand in the way of obtaining an efficient health service. Although it was true that the National Health Insurance system provided a general practitioner service and drugs for something like twenty-one millions of people, the rest of the population had to pay whenever they desired the services of a doctor.

The Minister continued: "It is cardinal to a proper health organization that a person ought not to be financially deterred from seeking medical assistance at the earliest possible stage. It is one of the evils of having to buy medical advice that in addition to the natural anxiety that arises because people dislike hearing unpleasant things about themselves—and tend to postpone consultation as long as possible—there is the anxiety of having to pay doctors' bills. Therefore, the first evil we must deal with is that the whole thing is the wrong way round."

The National Health Insurance scheme did not provide for the self-employed and for family dependants. It depended on insurance qualifications, and, no matter how ill you were, if you ceased to be insured you ceased to have free doctors. It gave no backing to the doctor in the form of specialist services. The doctor had to provide himself, out of his own discretion and personal connexions, hospitals and specialists for his patients. In the overwhelming number of cases the services of specialists were not available to poor people.

Scope and Availability.—"Our hospital organization has grown up with no plan and no system. It is unevenly distributed over the country. It is, indeed, one of the tragedies of the situation that very often the best hospital facilities are available where they are least needed. In the older industrial districts hospital facilities are inadequate. Many hospitals are too small. There are about 70% with fewer than 100 beds and over 30% with fewer than 30 beds.

"No one can possibly pretend that such small hospitals can provide general hospital facilities. There is a tendency in some quarters to defend the very small hospital on the grounds of its 'localism,' and its intimacy, and other rather imponderable reasons of that sort. But everybody knows that if a hospital is to be efficient it must provide for a number of specialized services. Although I am not a devotee of bigness for the sake of bigness, I would rather be kept alive in the efficient, cold altruism of a large hospital than expire in a gush of warm sympathy in a small one."

Mr. Bevan went on to say that the condition of the teeth of the people of Great Britain was a national reproach. As a consequence of dental treatment having to be bought it had not been demanded on a sufficient scale to stimulate the creation of sufficient dentists, and there was a woeful shortage of dentists at the present time. About 25% of the people could obtain their spectacles and have their eyes tested by means of the assistance given by approved societies, but the general mass of the population had no such facilities.

"One of the evils from which this country suffers is that sufficient attention has not been given to deafness and that hardly any attention has been given so far to the provision of cheap hearing aids and their proper maintenance. I hope to be able to make very shortly a welcome announcement on this question."

Another disability from which our health system suffered, in the Minister's view, was the isolation of mental health from the rest of the health services. The present Bill did not alter the Lunacy Acts, but they would have to come to that later on. The present Bill did for the first time bring mental health into the general health scheme. It should be one of the objects of any civilized health service to enable any person who felt mental distress to go to a general hospital for advice so that the condition might not develop into a more serious stage.

"This Bill provides a universal health service without any insurance qualification of any sort whatsoever, available to the whole population freely. It will universalize the best of advice and treatment." There would be some limitations for a while because they were short of many things. They were short of dentists, nurses, and of hospital accommodation. It would be some time before the Bill could "fructify fully in effective universal service."

Specialists would be available not only at institutions but for domiciliary visits when needed. The practical difficulties of carrying out these services were very great, but "when I approached this problem I made up my mind that I was not going to permit any sectional or vested interests to stand in the way of providing this very valuable service for the British people."

Voluntary Hospitals.—The voluntary hospitals had done invaluable work. When hospitals could not be provided by any other means they came along and they had a long history of devotion and self-sacrifice behind them. But they had been established often by the caprice of private charity. They bore no relation to each other. Two hospitals close together often tried to provide the same specialist services unnecessarily, while other areas had not that kind of service at all. They were badly distributed. To leave the voluntary hospitals as independent units was impracticable. "Furthermore I believe it is repugnant to the interests of the community that hospitals should have to rely on private charity. I have always felt a shudder of repulsion when I have seen nurses and sisters—who ought to have been at their work—going about the streets collecting money. We must leave that system behind entirely. The implications of doing this were very considerable," said the Minister. "I have been forming some estimates of what might happen to voluntary hospitals and finance when the all-in Insurance Act is passed. The estimates show that between 80% and 90% of the revenue of the voluntary hospitals will be provided by public money. In many parts of the country it is a travesty of the facts to call them voluntary hospitals. In the mining and textile areas the industrial population pay a weekly contribution for the maintenance of their voluntary hospitals."

"When I was a miner I used to attend meetings at which votes of thanks were passed to the managing director of the colliery for his generosity to the hospitals. But when I looked at the balance sheets I found that 97½% of the money was provided by the miners." It was a misuse of the term "voluntary" to call the voluntary hospitals "voluntary." For these and other reasons he had decided that the voluntary hospitals must be taken over. He knew the decision would cause a considerable amount of resentment. "I am not concerned with the voluntary hospitals," he added, "I am concerned with the people they serve."

The appropriate hospital unit was one of about 1,000 beds—not in the same building. Specialist services could only be provided with a grouping of that size, and this could not be brought about if the hospitals remained separate autonomous bodies. The main hospitals must have feeders. Cottage hospitals had striven to give services which they were not equipped to give. They strove to reach a status they never could reach and the welfare of the patients was sacrificed to the ambitions of the institution. Voluntary hospitals, to be grouped properly, must submit themselves to proper organization, and that was impracticable so long as they remained under separate management.

On the other hand, many local authorities had never exercised their hospital powers. Some were too poor. Some were too small. They had inherited their hospital system from the Poor Law. Though some of the local authorities' hospitals were among the best in the country others were a cross between a workhouse and a barracks. As a gathering ground for patients the local authorities were no more effective than the voluntary hospitals.

It was quite impossible to hand over the voluntary hospitals to local authorities. It would mean that once more they would be faced with all kinds of anomalies. Local authorities were too small and without the financial capacity to be effective

hospital units. Tuberculosis sanatoria, isolation hospitals, infirmaries of all kinds, and hospitals of every kind were all necessary in a general hospital service. "I decided that the only thing to do was to create an entirely new hospital service to take over voluntary hospitals and local government hospitals and organize them as a single hospital service throughout the country. If we are to carry out our plans and provide all the people of Great Britain with the same service, then the nation will have to carry the expense and not put it upon the shoulders of any authority."

A number of investigations had been made from time to time into the subject, and the conclusion always reached was that an effective hospital unit should be associated with a medical school. By grouping hospitals around medical schools it would be possible to provide what was very badly wanted—the means by which general practitioners could be kept in more intimate association with new medical thought.

One of the shortcomings of the existing service was the isolation of the general practitioner, "who practised in loneliness and had no access to new medical knowledge." By associating the general practitioner with the medical schools through a regional hospital organization it would be possible to refresh and replenish his knowledge. The regional hospital organization was the authority with which specialist services were to be associated.

"It is not intended," he said, "that the Regional Board should be a conference of persons representing different interests and organizations. It is intended that they should be drawn from persons of the profession, from the major public health authorities in the areas, from medical schools, and from those with long experience in voluntary hospital administration. By leaving ourselves open to take the best sort of individuals on these hospital boards, we hope before long to build up a high tradition of hospital administration on these boards themselves."

Any system which made the boards conferences, any proposals which made the representatives delegates would at once throw the hospital administration into chaos. Although he was prepared to discuss the constitution of the boards, he hoped he would not be pressed to make them "merely representatives of different interests."

General Practitioner Service.—"The proposal which I have made," he continued, "is that general practitioners shall not be in direct contract with the Ministry of Health but in contract with new bodies." Mr. Bevan emphasized that his proposals did not put the doctor under the local authority; they merely engaged him on contract with an entirely new body, the local Medical Executive, on which dentists, doctors, and chemists would have "half representation." The whole scheme would provide a greater degree of medical representation than ever before. It would, moreover, strengthen democracy by giving doctors full participation in the administration of their own profession.

Doctors, however, would not become civil servants. The scheme did not create one additional civil servant. Indeed, by taking the hospitals away from the local authorities very many people would be "enfranchized." There would not be any "huge bureaucracy," and the doctors would not be the "slaves of the Minister of Health."

Referring to the uneven distribution of doctors, he said that in South Shields before the war there were 4,100 persons to one doctor. In Bath there were 1,590. Dartford had 3,000, compared with Bromley's 1,620. Swindon had 3,100, but Hastings had 1,200. "That distribution is most hurtful to the health of our people. It is entirely unfair, and, therefore, if the health services are to be carried out there must be brought about a redistribution of general practitioners throughout the country."

If the country was going to get the doctors where they were most needed it could not possibly allow a new doctor to go to any particular area, merely because he had bought the practice. Proper distribution of doctors would automatically kill the sale and purchase of practices. "I have always regarded the sale and purchase of medical practices as an evil in itself. It is tantamount to the sale and purchase of patients."

Every time certain doctors argued for a high compensation for the loss of the value of practices it was an argument against the "free choice" they claimed in the matter. Mr. Bevan admitted that there would be very great hardship if doctors received no compensation for the purchase of those practices whose value might be affected. That course would be most unjust, but when the Government proposed to grant £66,000,000 for compensation the doctors were being treated very generously. He added that the profession would be advised about the equitable distribution of these funds among the claimants.

Some Kind of Hedonism.—He did not consider that the Bill's proposals would amount to the "direction" of doctors. All that would happen would be that when the Bill became law all the doctors in a particular area would be able to enter the public service in that area. An application by a new doctor wanting to enter a particular area would be referred to the Medical Practices Committee, a mainly professional body, which would have before it the question of whether there were sufficient medical practitioners in the area. If there were enough they would refuse the appointment. No one could argue that that amounted to direction. It would not affect the existing situation because doctors would be able to practise in the area to which they belonged, while a new doctor would have to find his practice in a place which was inadequately served.

With regard to remuneration, Mr. Bevan said he was not in favour of a fully salaried service. He did not believe the medical profession was ripe for it. He believed that some kind of hedonism should prevail. There must be some degree of reward for zeal, and some degree of punishment for lack of it.

It was therefore proposed that "capitation" should remain the main source from which the doctor would obtain his remuneration, but it was proposed that there should be a basic salary. One of the reasons for that was that a young doctor entering practice for the first time needed to be kept alive while building up his lists. The present system by which a young man got a load of debt around his neck in order to obtain a practice was an altogether evil one. The basic salary would take the place of that. The basic salary, however, must not be too large, otherwise it merely became "a disguised form of capitation."

He had made a further concession, continued Mr. Bevan, and that was that the general practitioner—and the specialist—would still be able to obtain fees, although not from anyone on his own lists or panel or on the lists of those with whom he was working in "co-practice." He thought it would be impracticable to prevent a doctor from having any private patients at all, because all they would succeed in doing would be to create a black market.

There ought to be no bar on anyone having advice from a doctor other than his own. Mr. Bevan thought, however, that the amount of fee-paying on the part of the general population would be quite small. If the amount of fee-paying was great the system would have broken down. The whole purpose of the scheme was to provide free treatment. It was hoped that everybody would be on some doctor's panel when the scheme got working properly. "This is a field, however, in which idiosyncrasy is prevalent, and if a person wishes to consult another doctor there is no reason why he should be stopped. But the fact that a person can transfer from one doctor's list to another ought to keep fee-paying within reasonable proportions."

Specialists in hospitals would be allowed to have fee-paying patients. Unless some fee-paying patients were permitted there would be "a rash of nursing homes" all over the country. He believed that nursing homes ought to be discouraged. They could not provide the facilities of a general hospital. Specialists should be kept attached to the hospitals and not sent into nursing homes. Great importance was attached to the health service, which had been described in some places as an experimental idea. He wanted it to be more than an experimental idea.

Health Centres.—It was proposed to leave some personal services with the local authority and some with the health centre. Health centres would vary in size. There would be the larger ones with dental clinics, maternity and welfare services, and general practitioner consultative facilities, and the smaller ones where the practitioner could see his patients. Health centres were very valuable and would be encouraged

in every way. Doctors would be encouraged to carry out their practice there. It would be some time before health centres could be established everywhere because of the absence of facilities.

Some thought the preventive services should be under the same authority. But a regional board of the sort needed would require the Albert Hall to meet in. There had to be a frontier at which the local authority joined the public health authority. There was no contradiction because some services were left to the local authority.

Consultations and Conferences.—There was an amendment on the Order Paper suggesting he had not sufficiently consulted the medical profession. He had met the medical and dental professions, pharmacists, nurses, midwives, local authorities, eye services, medical aid societies, and herbalists. He had had twenty conferences in all. Consultations had been very wide. His officials had had thirteen conferences in addition.

These consultations had produced a considerable amount of agreement. Opposition to the Bill was not as strong as it was thought it would be. On the contrary, there was considerable support for these measures among doctors themselves. As the proposals became known and the medical profession fully appreciated them nothing should please the doctor more than to realize that in future neither he nor his patient would have any financial anxiety arising out of illness.

There was an Opposition amendment about what was termed "interfering with charitable foundations." They were in fact not diverting endowments from hospital purposes. Teaching hospitals were going to be left with all their liquid endowments. Academic medical education would be far more free in the future than in the past. Furthermore, the £32,000,000 belonging to the hospitals would be used as a shock absorber between the Treasury, the central Government, and the hospital administration. It would be money which the hospitals could spend over and above funds provided by the State.

He was prepared when the Bill came to be examined in detail to consider whether any other relations were possible, but he thought that a Regional Board with an annual budget, with freedom to move inside that budget in disbursing that money to local management committees, would make hospitals responsive to local influence as well as to central direction.

The Minister concluded by saying: "I should have thought that all parties would be proud that Great Britain is about to embark upon an ambitious scheme of this kind. When it is carried out it will place this country in the forefront of all countries in the world in medical services. I myself take a very great pride and pleasure in being able to introduce this comprehensive and valuable measure. It will lift the shadow from millions of homes. It will keep many people alive who would otherwise have died. It will relieve suffering. It will produce a higher standard for the medical profession, and it will be a great contribution to the well-being of the common people of Great Britain."

The fifth annual report of the Birmingham Accident Hospital and Rehabilitation Centre shows a great increase in the number of admissions and attendances. The new patients numbered last year 24,686, almost double the figure for the first year of the hospital's existence, and the annual attendances in the rehabilitation department have multiplied four times in the same period. Nevertheless, the report complains that lack of medical staff has hindered progress. The hospital had no pre-war quota of medical man-power to determine its wartime strength, and the Central Medical War Committee allocated two surgeons, one assistant surgeon, one senior anaesthetist, and five junior medical officers to the hospital. "While this may have been considered reasonable in relation to the bed complement (210)," the report continues, "the fact remains that some 90% of the work of an accident hospital is out-patient work among ambulatory patients, whereas in some general hospitals the converse may well be the case." Moreover, an accident hospital must provide an active 24-hour-day 7-day-week service for the immediate treatment of new patients suffering from injuries. The junior medical officers had been recruited to the Forces, and at the time the report for 1945 was being compiled four of the senior members of the staff were to be called up. "So the closely integrated team, vitally necessary to deal with large numbers of patients, is to be broken up." Last year the Bernhard Baron Charities Fund presented £5,000 to the hospital for the development and maintenance of a burns unit.

SCOTTISH HOSPITALS AND POST-WAR DEVELOPMENT

SURVEYS OF THE FIVE SCOTTISH REGIONS

At the same time as the hospital surveys of England and Wales were proceeding, a survey of Scottish hospitals[1] was being undertaken on the initiative of the Department of Health. Scotland was divided for this purpose into five regions, based on Glasgow, Edinburgh, Dundee, Aberdeen, and Inverness, and the surveyors were appointed as follows: *Western*—Prof. J. M. Mackintosh, Prof. C. F. W. Illingworth, and Dr. R. J. Peters. *South-Eastern*—Mr. J. W. Struthers, F.R.C.S., and Dr. H. E. Seller. *Eastern, North-Eastern, and Northern*—Prof. R. S. Aitken and Dr. H. Hyslop Thomson.

Introduction

In a general introduction, subscribed to by all the surveyors, it is stated to be generally accepted that the organization of a progressive and co-ordinated hospital service for Scotland should be on a regional basis. The main voluntary and municipal general hospitals would form the keystone of the structure and be known as central hospitals; district general hospitals, mostly provincial voluntary hospitals of 100 to 200 beds, would act as hospitals of first reception for their own districts and undertake such medical and surgical work as did not require central facilities; country general hospitals, including E.M.S. hutted hospitals, would be available for the less urgent cases; and cottage hospitals would provide for cases falling within the competence of the general practitioner. "The most formidable problem of a hospital service is to provide accommodation for the chronic sick." The social urgency of these chronic cases cannot be ignored, and that is one reason for assessing general hospital requirements on a generous scale.

Grave shortage of general hospital beds is disclosed. The surveyors consider that in a closely knit industrial area the general hospital beds should number at least 8 per 1,000 of population; in the rural areas probably 4 to 5 beds would suffice. These figures do not include beds for the aged and infirm. Institutional provision should also be made for 75% of all confinements. The suggested hospital requirements, therefore, are:

General hospital beds 4–8 per 1,000 population.
Maternity hospital beds 4–5 per 100 births per annum.
Infectious diseases hospital beds 1.5 per 1,000 population.
Pulmonary tuberculosis hospital beds 2 per death per annum.

In general hospital wards the surveyors recommend wall-space of 8 ft. (2.4 m.) between patients. In maternity hospital nurseries 35 sq. ft. (3.2 sq. m.) per child is considered a reasonable standard.

Glasgow and the Western Region

The Glasgow Region has a total population of nearly 3,000,000. Eight sub-regions are suggested, the largest of which is centred on the city. One important step to be taken in the near future is considered to be the reinforcement of the staffs of the district hospitals outside Glasgow by part- or whole-time salaried appointments to be held by men of teaching hospital rank seconded from a Glasgow hospital.

"The extent to which such a service as this should be developed will depend to a large extent upon the character of the hospital service after the war, and we assume that the changes will be effected gradually as experience dictates. It appears to us that in the first place attention should be directed mainly to the appointment of general physicians and surgeons; but in the districts distant from Glasgow certain specialist appointments may also be needed."

Of Glasgow Royal Infirmary the surveyors say: "We have the feeling that at the time of our visit the staff of the hospital was over-pressed with work. With the evolution of a regional scheme it should be possible to relieve this pressure by having most of the ordinary hospital work of the county of Lanark carried out by the district hospital proposed for that county."

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[1] *Scottish Hospitals Surveys*. Edinburgh. H.M. Stationery Office. General Introduction, 6d.; Western Region, 2s.; South-Eastern, 1s. 6d.; Eastern, 1s.; North-Eastern, 1s.; Northern, 6d., in all cases net.

It is suggested that Victoria Infirmary, Glasgow, should be considered as a possible centre for postgraduate teaching, and that this hospital, with the Royal Infirmary, the Western Infirmary, and Stobhill and Southern General Hospitals should be the five central hospitals under the regional scheme. Certain suggestions are made for meeting a deficiency of 2,860 general beds in the Glasgow sub-region, principally by a new hospital of 1,500 beds at Newton Mearns. A high degree of priority should be accorded to the extensive additions required for maternity accommodation.

Proposals for other sub-regions are as follows:

Argyll.—At perhaps half a dozen selected places small combined units should be constructed, comprising a section to deal with general acute and chronic medical and surgical cases, a section for normal maternity cases, and an infectious diseases unit.

Bute.—Similar proposals.

Ayrshire.—A regional scheme would require for its full development greater use in common of specialist services by the appointment of specialists on a sub-regional basis to reside in the area and serve a group of hospitals.

Dumfries and Galloway.—Seriously deficient in hospital accommodation of all types. A new combined district hospital should be built near Dumfries to deal with general cases, also to provide facilities for the treatment of acute diseases of the chest and as a clearing house for surgical tuberculosis and orthopaedic cases generally. As a long-term programme the construction of a new maternity hospital near Dumfries is recommended.

Lanarkshire.—About 2,500 beds are required for general hospital accommodation. An interim plan is proposed which would utilize Motherwell County and Burgh Infectious Diseases Hospitals for general and maternity cases, and Stonehouse, Hairmyres, and Cleland as general hospitals, with Law Junction for infectious diseases only until a new hospital can be built.

Dunbartonshire.—A district hospital should be built somewhere near Dumbarton, with a central infectious diseases hospital and a maternity hospital associated with it.

Renfrewshire.—It is considered that the time has come when this county should be self-sufficient in district services, while continuing to rely upon central Glasgow hospitals for medical treatment of a highly specialized kind. This makes necessary the appointment of a full-time key surgical, medical, and specialist staff at the principal hospitals—a staff which should be resident in the areas served.

Stirlingshire and Clackmannan.—This sub-region has a sufficiently compact population to warrant the development of a single fully co-ordinated hospital service, requiring the construction of a central hospital.

Edinburgh and the South-Eastern Region

The South-Eastern Region, with a population of just over 1,000,000, includes, in addition to Edinburgh, Dunfermline, and Kirkcaldy, 43 small burghs. Two hospitals, both at Edinburgh, the Royal Infirmary (1,161 beds) and the Western General (300 beds), may be classed as key or central; three others—Dunfermline and West Fife, Kirkcaldy, and Leith—may be included in the category of district hospitals, and there are a number of other hospitals, general and special. The total bed accommodation in the South-Eastern Region is 8,671. The standard suggested for general hospital needs is 4 beds per 1,000 in rural districts and 8 in highly industrialized centres, giving an estimated total of 6,614, as compared with the present accommodation of 5,240 general beds. This additional 1,374 beds may seem high, but the surveyors justify it by citing waiting lists and the indications that many patients whose names are not on these lists would, if the accommodation were available, benefit from hospital treatment. It is also calculated that 880 maternity beds will be required to meet the needs of this area; the number of beds at present available, including even those in nursing homes, is only 529. The total accommodation for pulmonary tuberculosis in the region at present is 680 beds, and the estimate on the ratio of 2 beds for every death from this disease would give 912.

It is proposed to divide the area into four sub-regions—namely, the city of Edinburgh, the Border Counties, the County of Fife, and the Lothians. Patients from these four regions must depend on Edinburgh for those highly specialized services which can only effectively be provided in large central hospitals. Sub-region or district hospitals should be affiliated with the key hospitals in Edinburgh and share in the teaching of medical students. A serious effort should also be made to bring the chronic sick into the sphere of general medicine, and it is recommended that accommodation for these should be included in the general hospitals set up in the various sub-regions. It is estimated that 3,826 general hospital beds will be needed in Edinburgh itself, 540 of them for patients outside the city, involving an addition to present accommodation (which is 3,295) of some 500 beds. Two central or key hospitals are proposed, one of them the Royal Infirmary and the other a new hospital to the south-west of the city.

For the Fife sub-region the long-term aim should be to have two hospital centres, one to serve the western part and the other the eastern. The urgency of the need for adding to the hospital accommodation in this county is stressed. In the Lothians sub-region there should be eventually a complete hospital service, with two centres, for the western and eastern parts respectively. In the meantime the hutted annex of Bangour Hospital should be used as a centre to provide 600 beds for general purposes and obstetrics and 170 beds for infectious disease. In the Borders sub-region, on a long-term policy, a hospital centre of some 600 beds should be erected; in the meantime the use of the E.M.S. hospital at Peel would relieve the present shortage.

Dundee and the Eastern Region

In its general pattern the hospital service of this region must be based on the large hospitals in Dundee and a subsidiary centre in Perth, linked with the main centre for certain specialist and consultant services. Dundee Royal Infirmary and the local authority hospital at Maryfield should be replaced by a single new hospital on the outskirts of Dundee. This hospital would serve as the main teaching centre. The early establishment of an orthopaedic department and a department of psychological medicine in Dundee Royal Infirmary is recommended. The combined general hospital should include a children's block sufficiently large to undertake the work done at present at three institutions. A further recommendation is that King's Cross Hospital, Dundee, should become the central infectious diseases hospital for the region, and a new infectious diseases hospital should be built at Perth. For pulmonary tuberculosis a village settlement in association with Norenside Sanatorium is recommended.

This survey is different from most of the others in that it reports that accommodation for chronic sick is sufficient, or almost so, but half of it is in Poor Law institutions and does not approach hospital standards. Suggestions are made for the separation of chronic sick who are mentally normal from those who are mentally impaired. A short-term policy would secure over 800 extra beds for general and special hospital purposes by the inclusion of certain E.M.S. hospitals and annexes. New construction would be required for maternity accommodation at Arbroath, Crieff, Montrose, and Perth, with an adaptation at Maryfield Hospital, Dundee. Perth Royal Infirmary is declared to be a good and well-equipped general hospital. Its urgent need is for a new maternity and a new out-patient department. With the strengthening of its specialist staff and an increase in size of the medical school at St. Andrews it should be used increasingly as a teaching hospital.

Aberdeen and the North-Eastern Region

Most of the specialist members of the hospital staffs in this region are clinical teachers at the medical school at Aberdeen.

"The [Aberdeen] University is concerned to increase the number of clinical teachers in almost every department. . . . It also wishes to undertake its share of the training of young specialists, for whom an increased provision of positions of the registrar kind is necessary. These developments must clearly be aligned with the development of the hospitals service of specialists; their numbers and their organization must be such as to provide for the adequate care of patients in all hospitals of the region and for the requirements of teaching, making a reasonable allowance of time for investigative work and for study leave. Throughout our recommendations we have borne these considerations in mind."

In pre-war conditions the medical staff at Aberdeen Royal Infirmary and at the Woodend (local authority) hospital was nearly adequate to meet the needs of the region, but the considerations just mentioned call for an increase. It is thought advisable to develop the principle of a joint staff shared between the two hospitals. The medical beds in the district and cottage hospitals will be adequate provided an increasing number of surgical patients is sent to the large hospitals in Aberdeen. The smaller hospitals could be used more than at present for the further treatment of patients who have already been examined and treated in the central hospitals. The surveyors hold that

general practitioners should not in future be encouraged to undertake major surgery. The majority of patients requiring major operations could be brought to the central hospitals in Aberdeen, though the Elgin district, 60 miles away, is judged to be too distant, and a surgical unit should be established in that town.

The extension of the Royal Aberdeen Hospital for Sick Children is regarded as so urgent that the surveyors recommend as part of their short-term policy the construction of a new block for premature babies, further provision for children suffering from infectious conditions, and extra accommodation for nursing staff. For the chronic sick they suggest an early start with new building on two sites in Aberdeen and a new hospital at Elgin.

An appendix to this part of the survey deals with the position in Orkney and Shetland, both of which should be linked up with the North-Eastern Region, though a link with the Northern Region in the case of Orkney would be a desirable alternative. A new cottage hospital at Lerwick, in Shetland, is recommended.

Inverness and the Northern Region

The Northern Region is the only one not based on a university town. It has, however, a long-standing association with Edinburgh, but the most marked local trend is from the Western Isles to the hospitals and specialists of Glasgow.

"The islands have long been served by ships from the Clyde, and their people have close personal and commercial ties with Glasgow . . . their medical practitioners are loud in the insistence that this association should be preserved in the medical service."

One of the principal recommendations of the surveyors is the establishment of a new maternity hospital in Inverness. The provision of maternity beds in the region is seriously short of the standard of 40 to 50 beds per 1,000 births recommended in the Report on Infant Mortality in Scotland, 1943. A maternity unit at Fort William, another to serve the Isle of Skye, and a cottage hospital to replace Belford, which is insufficient for the district and cannot be extended or adapted, is proposed.

With its dispersed population and widely separated centres this region presents a special hospital problem. In other ways, too, it has required special medical provision, as evidenced for the last thirty years in the Highlands and Islands Medical Service. In the view of the surveyors the region should in time look to Inverness as its main surgical centre, but there should be a link with Aberdeen also. To maintain contact with general practitioners it is suggested that specialists should visit the cottage hospitals if suitable accommodation can be provided for out-patient consultative clinics. The survey outlines a comprehensive provision for cases of pulmonary tuberculosis in which three of the existing hospitals would play a major part.

An air ambulance service has operated for some years between the Western Isles and the airport of Glasgow, and another between Stornoway and Inverness has been recently inaugurated. The surveyors urge the development of air ambulance facilities between outlying parts of the Highlands and Inverness as soon as air lines are extended.

IMPERIAL CANCER RESEARCH FUND

The annual general meeting of the governors of the Imperial Cancer Research Fund was held at the Royal College of Surgeons on April 17 under the chairmanship of Prof. H. R. Dean. The forty-third annual report stated that since the end of the war all but one of the scientific staff and all but five of the surviving members of the technical staff had been released from the Services and had returned to the laboratories. The treasurer, Sir Holburt Waring, reported that the total income for the year was close upon £25,000, and the sum received in legacies, amounting to over £57,000, was larger than in any previous year. At the same time a great increase of activity, involving new expenditure, was anticipated, and the council had appointed a committee to consider how the work of the Fund could best be intensified and expanded.

The director, Prof. W. E. Gye, in a statement on the work of the year, said that research had been continued in the same four fields—namely, in carcinogenesis, mammary cancer, hormones, and chemotherapy. One line of inquiry had been on the metabolism of sulphur in relation to the occurrence of cancer. Two general conclusions were to be drawn from the experimental data available. The first was that disturbance of sulphur metabolism impaired carcinogenic activity, the degree of inhibition of these two processes running parallel; and the second, that sulphur played no part in the elimination of the carcinogens. Uncertainty as to this fact has hitherto proved a stumbling-block in the interpretation of the first phenomenon. The hypothesis that a primary action of carcinogens was their fixation to sulphydryl-containing constituents of an unknown nature in the cell was in harmony with all the findings so far accumulated.

Mammary Cancer

The experiments on mammary cancer are in their nature slow and time-consuming. One piece of work to which Prof. Gye drew attention was directed to the elucidation of the interaction of formulative stimuli on mouse mammae of high- and low-cancer strains. The attempt was being made, by careful experiment and detailed microscopical examination, to determine whether pathological changes in the breast must first occur or whether it was merely necessary for a certain stage of anatomical outgrowth or differentiation of normal cells to be reached before true cancers formed. Progress had been made in this difficult research, but results were not sufficiently complete to give definite answers to questions of vital importance to conceptions of the cancer process.

In the work on hormones one piece of investigation concerns the mechanism by which thiourea prevented the development of mammary cancer. Prof. Gye stated that the effect of the drug appeared to be more specific than that of simple underfeeding. Virgin mice receiving thiourea had long periods of dioestrus, and the mammary gland developed to a much less degree than in the control mice. In these ways mice receiving thiourea resembled the animals after ovariectomy. If, as had been suggested, thyroid secretion was necessary for the full activity of the pituitary–ovary hormone system, then the blocking of thyroxine synthesis by thiourea would be equivalent in some respects to functional ovariectomy, and its effect on the development of mammary cancer could be so explained. But there were conflicting phenomena which still needed explanation.

A large number of pure chemical substances have been tested for possible therapeutic effects in cancer, but so far none has been found to possess a special affinity for cancer cells. Partial regression of some human breast cancers after treatment with synthetic oestrogens having been reported, two members of the research staff investigated the action of stilboestrol on nine of the strains of transplantable tumours which had been found sensitive to treatment by colchicine, the alkaloid discovered in the National Cancer Institute of the U.S.A. to be a most potent mitotic poison, arresting cell division at metaphase in all kinds of cells. Pellets of stilboestrol introduced subcutaneously failed to influence the growth of the tumours unless the dosage was sufficient to induce toxic symptoms, including considerable loss of weight. It was therefore concluded that in this investigation stilboestrol had no specific action in inhibiting the mouse tumours employed, and that such inhibition of growth as occurred with relatively high dosages was the result of a non-specific action.

Some reference was made to the work done for the Government in the Fund's laboratories during the war. This included an investigation of the action of war gases on the eye, and especially the treatment of mustard gas burns. British antilewisite (BAL) was found to be a powerful antidote to all poisoning by trivalent arsenicals. "BAL produces an intracellular reversal of a pathological process of a new and striking character which has already been found to be applicable to such peacetime problems as the treatment of arsenical dermatitis and other forms of arsenical poisoning." It is hoped that a full publication on the whole subject of chemical injuries of the cornea may now be permitted, the eye presenting so good a field for experiment on the reactions of avascular tissues.

The Fund has now nine members of its scientific staff and three visiting research workers from abroad.

THE RETREAT, YORK, 1796–1946

In 1792 William Tuke, Lindley Murray, and other members of the Society of Friends proposed the establishment of a "retired habitation" near York for treatment of persons afflicted with mental illnesses. It was built through the donations of members of the Society, and was opened on May 11, 1796, when it received the name of "The Retreat." The original structure still remains as the central part of the buildings. The Retreat was the first institution in this country to initiate the humane treatment of the insane, and as a registered hospital for nervous and mental illnesses it continues its pioneer work. When first opened the patients and staff were known as "the family," and although great development and expansion have taken place since then, the family atmosphere has been jealously guarded throughout.

In celebration of the 150th anniversary there will be a gathering at the Retreat on the afternoon of Saturday, May 11; Mr. Arnold S. Rowntree will preside, Dr. Henry Yellowlees will give an address entitled "Hitherto and Henceforth," and Mr. Anthony W. Tuke, a direct descendant of the founder, will plant a tree. On May 12 a service will be broadcast from the Friends Meeting House, Clifford Street, York, and on May 21 there will be a public meeting in London at Friends House, Euston Road, at 6.30 p.m., under the chairmanship of Dr. Cuthbert E. Dukes, the speakers being the Bishop of Coventry and Dr. Arthur Pool, medical superintendent of the hospital. The Friends Book Centre is publishing from that address a five-shilling booklet, *Light through the Cloud*, written by Mr. L. A. G. Strong after a visit to the Retreat. His purpose is to emphasize as a layman that methods in research and treatment are incomplete without an enlightened and friendly understanding of the stresses and strains to which human nature is subject.

EGHAM REHABILITATION CENTRE

The first residential industrial rehabilitation centre to be set up by the Ministry of Labour and National Service, at Egham in Surrey, is the subject of an excellently produced and illustrated pamphlet issued by the Ministry. The centre is on a hillside above the Thames, overlooking Windsor Castle and the playing fields of Eton, and consists of a country mansion on a 55-acre estate, with workrooms, class rooms, a medical block, and a gymnasium. Here are accommodated 230 men, either civilians or ex-Service men, between the ages of 16 and 50, for courses of from six to eight weeks. The aim of the centre is to help men who have completed hospital or convalescent treatment but are not yet fit for full-time employment nor even for full-time occupational training. Medical supervision is afforded by a resident doctor, the services of nurses and physiotherapists are available, and after a man has been put right in the physical sense, his preferences and aptitudes are studied with a view to his re-entrance into employment. "When a man leaves Egham, having completed his stay, he has already mapped out his future; he knows, with certainty and confidence, just what he is capable of, and just what he is going to do." It is stated that of 1,000 men who have passed through the centre during nearly two years, 500 have returned to their former jobs or to other suitable occupations, and most of the remainder to a Government or other establishment for further industrial training. Other such centres are contemplated.

Reports of Societies

SURGICAL TREATMENT OF DEAFNESS

At a meeting of the Liverpool Medical Institution on April 11, with the president, Dr. G. F. RAWDON SMITH, in the chair, Mr. A. TUMARKIN read a paper on "Recent Advances in the Surgical Treatment of Deafness."

Mr. Tumarkin dealt in some detail with the modern fenestration operation as perfected by Lempert. Though this operation was successful in a limited proportion of cases, and represented a real advance over all previous techniques, nevertheless, its value had been much overestimated by the popular press. In estimating the proportion of successful cases at about one in four, he made a plea for greater care in the presentation by surgeons of their results.

In the second part of his paper, on the surgery of chronic middle-ear suppuration, Mr. Tumarkin condemned radical mastoidectomy as a major and mutilating operation, which commonly failed to cure the suppuration and more often than not increased deafness. He described the operation of transmeatal atticotomy which he had designed nine years ago. This was an operation of precision performed with minute gouges through an aural speculum. It utilized the external auditory canal as a natural shaft leading direct to the functioning structures of the middle ear. He claimed that the operation was superior to the radical mastoidectomy in many ways. It was a comparatively minor procedure and could be done in adults under local analgesia. The resulting operation cavity was minute and healed rapidly and permanently. After-care was reduced to a minimum and, above all, hearing was improved in a large proportion of cases. Mr. Tumarkin gave details of a group of 11 atticotomies recently performed on school-children. Otorrhoea had been present for from 2 to 12 years. In 9 cases a dry cavity was obtained in 2 to 6 weeks. In 5 cases the hearing improved. Pointing out that in nearly all cases the ossicular chain was destroyed by prolonged suppuration, he made a plea for early atticotomy as soon as it was clear that conservative measures could not succeed.

In the discussion which followed Mr. H. V. FORSTER said that he had not attempted the fenestration operation for otosclerosis. He had seen some good results follow Mr. Tumarkin's conservative transmeatal operation. Perhaps Mr. Tumarkin's comparison between this procedure and the radical mastoid operation done by the post-aural route had been a little severe. Though operating by the older method of approach behind the auricle, he preferred to be kind to the tympanic contents, especially in children. If necessary, one could work backwards from the attic instead of removing a wide area of the mastoid cortex. The war had revealed a large number of cases of chronic middle-ear suppuration in recruits called up for medical examination, though some of them heard remarkably well in spite of a chronic discharge.

RADIOGRAPHY OF PNEUMONIA

At a meeting of the Fever Hospital Medical Service Group of the Society of Medical Officers of Health on March 29, with the president, Dr. M. MITMAN, in the chair, Dr. THOMAS ANDERSON (Glasgow) illustrated the progress of consolidation in pneumococcus pneumonia by a series of radiographs.

Some of the patients showed a rapid clearing of the process so that a normal radiograph was obtained in two to three weeks. Other examples were shown, however, where even after the lapse of over five weeks marked evidence of consolidation was still present. In some of these the raising of the diaphragm and similar signs pointed to the possibility of collapse; but in the majority no such evidence could be found. The radiographic picture in these cases of delayed resolution was usually that of a feathery opacity with linear and circular markings. As a general rule the periphery cleared most slowly. The earlier figures of incidence which the speaker had recorded were supported by more recent statistics, which showed that the condition might occur in from 35 to 40% of patients over 35 years of age. Two points of importance were that eventually—sometimes after the passage of two to three months—a normal radiograph would be obtained, which suggested that the condition was not fibrotic; during this time many of the patients remained incapacitated. Secondly, patients whose initial consolidations showed the densest opacities in the radiograph took longest to clear.

Dr. Anderson then went on to deal with the radiographic appearances in cases of measles. In some patients the diagnosis of bronchopneumonia was not in doubt. But in a considerable number there were markings, particularly at the right inner base, which were in keeping with a diagnosis of partial collapse. The importance of the recognition of such cases was underlined by a series of radiographs from patients who were admitted with the diagnosis of pneumonia but who were found to have a collapse with bronchiectasis. In each case the starting point in the history was an attack of measles complicated by "pneumonia," after which the patient had had several pneumonic episodes. A plea was made for the more careful follow-up of suspicious cases.

A clinical meeting of the Medical Society of the L.C.C. Service was held at St. James' Hospital, Balham, on April 4, when the staff of the hospital demonstrated cases. There were 100 members present. The clinical demonstrations were followed by a discussion on some of the cases, which included a number in which oesophagectomy had been performed.

Correspondence

The Health Service Bill

SIR,—The initial difficulty most doctors experience in facing up to the National Health Service Bill is that all their training has been to fit them to fight for the lives and interests of others, and not themselves, so that they are rendered peculiarly vulnerable to this unwarranted attack upon their freedom and independence. "Unwarranted," I think, is the right word, because the "private enterprise," so despised of the Socialist doctrinaire, has played such an all-important part in making medicine the highly efficient profession that it is to-day.

If the Bill gave primary importance to the most pressing issue with which we are faced to-day—namely, lack of hospital beds, staff to run them, and better facilities for treatment—then we should feel more inclined to recognize that Mr. Aneurin Bevan knows what he is talking about. But no; this is relegated to comparative obscurity in comparison with the endeavour to make us swell the already indecently overcrowded ranks of the Civil Service. A possible failure in the health services makes the already gloomy list of Government failures in coal and housing pale into insignificance; nor will any promise as to the continuance of "private practice" reassure us, with the recent memory of the broken pledge to the approved societies.

Let us be quite clear: the seven Principles are vital; Mr. Aneurin Bevan refused to negotiate with us, let us refuse to co-operate with him unless he concedes these Principles.—I am etc.,

Crawley Down. A. ORR-EWING.

SIR,—On the eve of what must surely be the most important Representative Meeting that has ever been held, and coinciding as it does with the second reading of the Health Service Bill in Parliament, may I plead with my fellow delegates, and with all the eloquence in my power, that they will now lift and separate from the main mass of arguable matter contained in the Bill those one or two points—there are no more and there may be fewer—upon which the profession may decide neither to argue nor to compromise, but at need to "stand and fight." It has been a weakness of past Representative Meetings, perhaps unavoidable in the absence of definite Government proposals, that there have been so many aspects of a scheme to revolutionize medical practice under discussion at the same time. In the mass of resolutions, at times overlapping or even conflicting, it has become difficult for the rank and file to see "the wood for the trees."

The confusional possibilities of what one of your correspondents calls a "cloud of words" are as endless as they are dangerous. An instance comes readily to mind. In the B.M.A. circular on the Bill under the heading "Family Practitioner Services," and repeated in the agenda for the Representative Meeting, the direction of doctors, the form of remuneration, and the disposal of practice goodwill are treated as three separate points. Surely on reflection it is apparent that they are corollaries of each other to the extent of being indivisible. The freedom of doctors to settle where they wish, payment by capitation fees, and the disposal by sale of practice goodwill taken together form a logical sequence, and a system that ensures the continued independence of the profession; taken separately they become meaningless symbols, of no practical value. In the same way their antitheses—direction, payment by salary, and abolition of practice sales—do not lead to a salaried service; they mean that it is here with us as an accomplished fact. I submit that here there are not three principles, but one, to be debated as one. Herein too, perhaps, is the outstanding principle of all. Indeed I am tempted to regard it as the only one which has emerged so far which justifies a fight. The B.M.A. is raising a defence fund; what for? Let us hear now, not in vague general principles, but in concrete terms, phrased in plain and simple language, and, if possible, without qualification.—I am, etc.,

Derby. E. D. BROSTER.

SIR,—As a Socialist of sixty years' standing, a general medical practitioner in every class of practice, a supporter in the main of the present Government, an old friendly acquaintance of the Prime Minister, and a member of the B.M.A. for many decades, I should like to express my enthusiastic agreement with the arguments and with the proposals in Dr. W. M. Frazer's letter (April 20, p. 621).

A quarter of a century ago I wrote a book which was published under the title of *A National Health Policy*. Speaking of the panel system and free choice, I said:

"If a panel doctor feels that his patient needs visiting every day for six months, he is, at any rate, at liberty to do so without adding to the poverty of the home. If he does not rise to the opportunity then it is human nature that wants reforming. No *system* will tend to help much, least of all would a full-time salaried service, which would inevitably take away from the patient all initiative, control, and choice.

It is true that doctors who temperamentally take little pride in doing good work neglect it just as they used to do, but their neglect is not due to the panel system, and, fortunately, they form a very small minority. Moreover, the panel system has not only no responsibility for the creation of this neglect, but actually provides the only efficient remedies for it.

A remedy is rarely very effective in practice unless its application is in the hands of those who will gain by its success or suffer from that which it is devised to cure. If we had a system of salaried State doctors, it would still be the patient who would mainly suffer from the doctor's neglect, but it would have to be some public committee or State Department that would administer the criticism or inflict the penalty. The panel system has the great merit of placing the remedy largely in the hands of the patient. Flagrant cases are, in addition, treated by the public authorities with fine or expulsion, but the principal power lies with the panel patient himself. In the first place, he is free to choose whatever doctor in his district is of best repute, and if he is dissatisfied with his doctor and loses confidence in his skill or attentiveness he is free to leave him and choose another. There lies the true remedy for slackness and malpractice.

The doctor's income depends on the number of patients who select him and, having selected him, remain with him. Unfortunately, in the past the apathy of some of the doctors has been as nothing compared with the apathy of the great mass of panel patients. They have been apt to 'grouse' but not to act. They are at last beginning to realize their powers; and it is up to them, by a mere process of selection, to eliminate from the ranks of panel doctors the dwindling minority of slackers—the only ones who gain publicity.

Under the Insurance Act no provision has yet been made for specialist and hospital treatment, which nowadays forms so essential a part of a complete medical service. Until these additional services are included, and until the dependants of the employed population also come under the panel system, it cannot be regarded as complete even for its limited purposes. But so far as it goes it is, in my opinion, the best system yet devised, and I should much like to see it applied to other departments of practical economics.

It is not fair to debit the panel system with the fundamental defect of the National Insurance Act, which is that it is applicable to one class of the population only, affording a typical instance of class legislation. Nor is it a defect in the panel system itself that, even within that class, its potential benefits are available only to certain individuals in each family, or that, as stated above, it provides only an incomplete medical and surgical service, the more urgent and vitally important services being still entirely outside the insured person's reach.

Were the present panel service of general practitioners supplemented by an efficient and properly organized service of operating surgeons, and ophthalmic, gynaecological, and dental specialists, and adequate hospital accommodation, including all modern means of diagnosis; and were greater 'freedom of choice' given to the individual patient, the machinery simplified, and the connexion between the medical service and approved societies abolished, it is doubtful if a better system could at present be devised. The old-fashioned individual fee-hunting medical practice is condemned by experience as well as by the merest common sense. Under it, proper medical attention is barred for the majority of poor people. A salaried general practitioner service, on the lines of the Poor Law, would essentially reduce the position of the individual patient to a status difficult to describe other than as that of a pauper, for no comparison is possible between a 'family doctor' service and such services as the police or judicial. It would give increased power and security to the slackers in the medical profession, while discouraging hopelessly the more zealous. Keen men will do good work under any system, but the system is the best which places within the reach of the greatest number all the medical skill available, and gives the maximum encouragement to its exercise."

My views to-day are pretty much the same as they were then.—I am, etc.,

London, E.1. HARRY ROBERTS.

SIR,—May I comment on a point in your leading article (April 20, p. 612) and on another issue that has been frequently raised in correspondence about the Bill. You suggest that the Minister should drop his salary proposal and see that doctors be remunerated on a capitation basis. If, however, the Minister did do this, would it be wholly fair to those doctors who, working single-handed before, have returned from the Forces to find their practices considerably diminished and their panel lists reduced by half or more? Thus one colleague, after some years away, sees his panel list reduced from 2,400 to 600; another from 1,700 to 700. If the Bill is passed all panel lists will presumably be dissolved and patients will be given afresh the duty of selecting a doctor. What real chance will the Service doctors have then of regaining their former practices? As we know, many people will, from inertia, tend to choose the doctor on whose list they were prior to the Act coming into force, with the result that those doctors who have been away will be at a considerable disadvantage. If this applies to once-established practitioners, how much more does it not apply to the young men and women about to start on their careers? The B.M.A. announces that it has them in mind and is making, or has made, arrangements to enable them to borrow money with which to buy a practice. This is very well, but if a man does not want to burden himself with a heavy debt—and one knows how heavy and harassing such a debt can be—then it's just too bad. He is, after all, free to struggle for a living as others have done before him. One cannot wonder that there are many who cordially welcome the proposal that a substantial part of our remuneration be by salary. It is idle to preach unity to a profession that is so divided by circumstance.

A different issue raised by many of your correspondents is this. They suggest that, when all may be treated "free," doctors will be swamped with the trivial complaints of patients who would not have attended had they been obliged to pay at each visit. Nothing, to my mind, is less likely. Many years of private and panel practice, and some recent experience as an Army medical officer, have but served to confirm what has repeatedly been proved before, and been conclusively demonstrated by the Peckham Health Centre, that, taking it by and large, sick people do not go to the doctor early enough. Not because they can't afford to—it is not only the poor who come to us with inoperable carcinoma or advanced disease—but because even when people know they are ill they are frightened of being told they are ill. We ought, then, to welcome the trivial complaint when we meet it, for we have seen too many patients die of what was first thought to be a trivial complaint or a neurotic symptom. And besides, if we pretend to be interested in our work we should be glad to study early symptoms and signs. For, as John Macmurray put it, "The man who goes to the doctor is a sick man."—I am, etc.,

London, E.1. M. MARCUS.

SIR,—Whatever one thinks of the new Health Service Bill there is one thing that stands out in startling relief—the fact that the Minister of Health has treated with contempt the members of the medical profession, in that he has declined any negotiation with its chosen Negotiating Committee. He has produced his Bill and has stated that its "framework" must stand. These are the actions of a dictator issuing an ultimatum.

When one studies this framework, "which must be accepted," one cannot but see clearly that it is not only a framework but is also a sepulchre designed carefully for the reception of the ashes of many things that have hitherto been held dear by the profession—individuality, initiative, independence, etc.—and it has also a special funeral urn for the ashes of the great and glorious traditions of our voluntary hospitals, dear to us also in a way that no other hospitals can be. It will be a very bad day for the moral and spiritual welfare of our country if its citizens are to be for ever deprived of the pleasure and uplift of contributing, to the succour of the sick and needy, gifts that are always twice blessed. How easily it could be avoided by the provision of grants in aid in order that our great voluntary hospitals should continue to lead, as they have always done, in the story of hospital progress.

Looking to the future under this Bill, what are likely to be the prospects of the profession with regard to the relationship of their various advisory committees to the Minister of Health? Is he compelled or is he likely to act on their advice? In view of his initial dictating the prospect is gloomy in the extreme. I feel strongly that in resisting this Bill as it now stands the profession will be acting in the best interests of the people, and I am sure that the people generally wish us to remain, as heretofore, their own personal advisers, and not become mere civil servants whose first loyalty must be to the State. I cannot conceive that the profession will be so spineless as to accept tamely the Bill as it now stands, and I hope that all Branches will adopt the slogan: "No service under the Act until conditions of service acceptable to the profession have been reached as the result of negotiation freed from dictation."—I am, etc.,

Eltham, S.E.9. WILLIAM T. MILTON.

SIR,—Judging from the letters published in the *Journal* and from opinions expressed both in public meetings and in private, it appears that a considerable number of doctors object strongly on principle to certain proposals in the National Health Bill. Their objections are based on the belief that the proposals will tend neither to raise the standard of medical treatment nor to improve the health of the nation. The Bill sets us on the road leading to a full-time State salaried service, and the sacrifice of freedom and initiative thereby entailed should not be demanded by the Government until we are certain that a commensurate benefit will be derived from it by both doctor and patient.

Owing to the fact that the majority of general practitioners have commitments and dependants for whom they are responsible, they are not in a position to refuse service under the proposals of the Bill unless they know that a sufficient proportion of their colleagues are prepared to stand by them. If the B.M.A. should arrange a plebiscite in the form, "Are you prepared to work in the National Health Service as laid down in the Bill?" the majority will be obliged, however unwillingly, to answer "Yes." I venture to suggest that this difficulty might be overcome if questions were circulated in some such form as the following:

(*a*) Apart from economic reasons, are you in favour of accepting service under the National Health Service Bill as a matter of principle?

(*b*) If not, is your objection so strong that you would undertake to refuse such service provided that a sufficient number of your colleagues would unite with you in such a refusal?

Our leaders in the B.M.A., having studied the answer to these questions, would then be in a position to judge whether a sufficient proportion of general practitioners are prepared to stand together to make such action advisable, and could instruct members accordingly.—I am, etc.,

Stanmore. H. B. WOODHOUSE.

SIR,—I do not dare say that I will not accept service under the Bill, but would willingly sign a statement that, providing 50% of doctors do likewise, I would refuse service. Many of us are afraid of being left "holding the baby," but such a document would probably be signed by 90% of the profession. The percentage agreeing would be the true percentage wishing to refuse service. Could not the B.M.A. try out such a document at once and see what happens.—I am, etc.,

Halesowen, Worcs. H. W. BLAND.

SIR,—Recent correspondents have drawn attention to discrepancies in the Ministry of Health's Summary of the Proposed New Service as compared with the Bill itself. May I put forward a further point.

The Summary (para. 4) states that "all the service, *or any part of it*, is to be available to everyone" (italics mine). This appears to cover the right of a patient to consult a general practitioner outside the service, and not thereby deprive himself of hospital, consultant, and other benefits in the scheme. I can, however, find no reference to this privilege in the Bill itself.

Without suggesting that the treatment would be better, I believe there will be patients who, for personal and other reasons, prefer a private practitioner as their family doctor. It is of vital importance that such practitioners have access to the facilities of the service on behalf of their patients, and this right should be established, if possible, by a clause in the Bill. It may be suggested that the position could be secured by regulation, but regulations are too easily altered or cancelled by succeeding Ministers.—I am, etc.,

Sheffield, 10. HENRY BROWN.

Fallacy of the Health Service Bill

SIR,—May I be allowed to say that I believe the present attempt of the profession to resist regimentation is illogical. We are proposing to stop a symptom instead of the disease which produces it. The Government is committed to the task of gradually organizing the whole country for the purposes of mass production, and is therefore, from its own point of view, perfectly in order when in it proceeds to the regimentation of the medical profession. Indeed, it is clear that, on the Government's own assumptions, the medical profession will form one of the most effective agencies in bringing about the desired organizing of the country's man-power. This the profession will do by virtue of its power of issuing or withholding certificates. If a cog stops arbitrarily in a machine the whole machine is thrown out of gear. Without a doctor's certificate no man in future will be allowed to leave his work. It being decreed that mass production through the agency of the State machine is henceforth to be Britain's aim in life, the organizing of medical certification will obviously have to be gradually tightened up until no one escapes the net. Hence the Health Service Bill is only a symptom. The disease is the drive towards the servile State. Therefore the doctors are surely the very people to point out the fallacy involved in merely "resisting the Bill."

Those of us who understand what freedom is and love it, and who are prepared to make some personal "sacrifice" in its cause, had better probably change our methods. Let us, I suggest, point out what is happening in the psychological sphere. That "feeling of frustration," to which many newspapers have lately been drawing public attention, would now seem to be deepening into an actual psychoneurosis, which is perhaps best described as *baulked* or *thwarted personality*. And this again is apparently not only at the root of a major part of our growing insanity rate but also, via the "nervous system," producing many bodily ailments as well. If, therefore, we can demonstrate that the general advance of mechanization, standardization, and mass production by the State is bringing about more disease than it can ever possibly cure, the Government might conceivably be induced even now to drop its present Health Service Bill—nay, more, to reverse the general policy which is promoting so much disability in this country.—I am., etc.,

North Queensferry, Fife. A. J. BROCK.

The G.P. and the Health Service Bill

SIR,—"Words," said Voltaire, "were given to man in order that he might conceal his thoughts." We have had a spate of words lately and are likely to have more. Even so, to ask an average doctor to put in a concrete form exactly what the N.H.S. Bill means to him is to ask an impossibility. He just doesn't know. Nevertheless, he is asked to be prepared to dive into his private treasury and be ready to part with anything from £25 to £100 to support some scheme, he doesn't quite know what. "Trust," of course, is the essence of the contract. But some of us remember the slogan "Trust Baldwin," and what a morass that led us into. Flocking to meetings is all very well, but does it prove anything except the existence of a gregarious instinct and a sheep-like tendency to be led by some dominating personality with a golden tongue? Let the orators beware when they think they are swaying those serried ranks of medical humanity in front of them. *Quot homines, tot sententiae*, and perhaps, as they file out, one hears an echo of old Omar, "but evermore Came out by the same door as in I went."

I am no Socialist, and I have no love for Mr. Bevan or for any of his works, neither have I had any regard for any Minister of Health for the last 20 years, for they have scarcely troubled to disguise their own lack of interest in our profession. For that matter has the B.M.A. always been so perfervid about the interests of the G.P. as it appears to be to-day? The doctor–patient relationship is worked to death and savours slightly of cant. One feels sometimes that it is those doctors who wear themselves out in the interests of their patients who say least about it, and who would like to have a little of this burden taken off their backs. To pass some of our troublesome patients along occasionally to one of our colleagues would be as good as a holiday. Doctors are harassed by the ability of a certain section of the community to get medical treatment for next to nothing, and the result is that our waiting rooms are filled with hypochondriacs and our nervous and physical energies dissipated listening to their doleful stories.

These troubles will inevitably get worse. But let us, for Heaven's sake, not always invoke the sacredness of the doctor–patient relationship. To the specialist who sees his patient once or twice this is all very touching, and so it would be to others did they not have to live for ever among them.—I am, etc.,

Hove. G. L. DAVIES.

SIR,—A National Health Service Bill will inevitably be passed. There is a danger that we may lose precious time in debating Principles and freedoms when we should concentrate on briefing our medical Members and other M.P.s to advocate amendments.

Any scheme to lighten the financial burden of severe illness on the middle classes is welcome and overdue. Their health is primarily in the hands of the G.P., and my main criticism of the Bill is that it carries a few steps further the down-grading of the family doctor, a process that has been going on for twenty or more years.

I practised abroad for 14 years in places where necessarily a doctor had to rely on his own judgment, and I found on my return that, apart from the treatment of minor ailments, a general practice was mainly a distributing centre to direct patients to appropriate specialists and to hospitals and clinics. Success often appeared to be measured by the size of the panel and the speed with which patients could be supplied with a bottle or dispatched with the necessary specialist's letter. Hospitals, clinics, and specialists are all needed in abundance, and it is wonderful to think that they will be more easily available to the middle classes, but what interest does a G.P. get out of the service if he is to be converted into a medical clerk at a mass distributing centre or communal surgery, as the health centres will at first be?

Give us proper diagnostic clinics attached to the local hospital or sub-hospitals, with ancillary special departments and specialists in attendance and access to general-practitioner beds to work under the staff of the hospital. Give the family doctor a chance to keep alive his clinical acumen, and follow his patients as a friend and adviser through all stages of disease, encourage him to take his part in preventive medicine by employing him more in pre-natal clinics, child guidance clinics, rheumatism clinics, vocational psychiatric clinics, or whatever he may be most interested in or adapted for. Unless this is done no one will be interested in medicine as a career unless he can become a specialist, and you will have an ill-balanced service with many experts in restricted fields of therapeutics and an overworked rank and file of disgruntled disinterested medical clerks.

Demand for us more interest in our work and demand that we know definitely the conditions of service. Our salary and our compensation, and the method of assessing the latter, should be approved by Parliament and not left to be settled by regulations subsequently inserted by the Minister. If the compensation is adequate and fairly assessed, let us cease our opposition to the sale of goodwill. The old system of the sale of practices will never be an issue on which we can be united, as shown by the B.M.A. Questionary, in which 52% of all doctors who replied voted for its abolition. Whatever form the service may take the selling value of many practices will probably fall, and unless we are careful the Minister will be quite agreeable to let us miss the substance of £66,000,000 for the shadow of an unknown value later on.—I am, etc.,

Leigh-on-Sea, Essex. H. W. TOMS.

Destruction of Freedom under the Bill

SIR,—As time passes it seems obvious that if the National Health Service Bill is passed into law it will completely destroy the freedom of the medical profession by any of four well-aimed blows:

The first and most fatal blow is that there has been no opportunity for the profession to save its liberty by negotiation before the Bill was presented. The second blow is that the Minister dictates the hospital, consultant, and general practitioner service, with the profession having no effective power to govern its own affairs above the level of local executive councils. These councils only have disciplinary and disbursary functions.

The third blow is the decision to prevent doctors owning the goodwill and freehold of their practices. Basic salary and

capitation fee, in whatever arranged proportion, are equivalent to salary and must lead to direction of practitioners and loss of independent medical attention. The public will suffer with their doctors by this outrageous proposal that doctors cannot own their goodwill as can other professions which are free, for the doctor will always have his eye on the State officials to be sure he is not being over-generous to any of his patients. There could well be a general practitioner service of salaried type for those doctors who prefer this form of service and for those patients who do not object to communal surgery attendance, while leaving the majority of doctors the freehold of their practices. By this combination of salaried practice and freehold practice the public and the profession would safeguard their rights and avoid monopoly medicine.

The fourth blow is that the charitable bequests and endowments which have been bestowed on the voluntary and great teaching hospitals of the country are to be transferred to the ownership of regional and hospital governing boards under the control of the Minister, thereby striking a mortal blow at the independent consultant service in the hospitals, at their traditions, and at local pride, replacing private benevolence by official rigidity. How much more practical it would be to give State subsidies, in proportion to the needs of each voluntary hospital, in exchange for the acceptance by the hospitals of adequate central co-ordination of effort and perhaps of the purchase and supply of the numerous requisites for treatment and maintenance.—I am, etc.,

London, W.1. GEORGE ROSSDALE.

Security

SIR,—It has been stated in some letters to the *Journal* that the doctors being released from the Services naturally want security. On this peg it is expected that demobilized medical officers will hang approval of the present proposals for a National Health Service. I submit that this conception of security, however fashionable and "progressive," is false.

In the last 15 years we as a nation have seen three forms of security attempted in the world. The first was that of acquiescence in evil, the so-called security of appeasement. This implied trusting that the good nature of our enemies would triumph if we did nothing to annoy them. In the meantime the money was coming in, and we were apparently economically more secure than we would be if we opposed the evil before us. Ultimately this system failed because it became clear that our principles would have to be sacrificed completely if we continued. The neutral countries did continue and ended in slavery. The French adopted the Maginot system of security; relying on complex static defences they forgot that security demands action, imagination, and inspiration by principles. Inertia is no guarantee of impregnability. They ended in slavery. Lastly we adopted the method of war, the method of insecurity and action. At a time when prudence demanded we keep our armour at home it was all sent to Egypt. Victory began soon after this rash act. Security, however uneasy, has temporarily been achieved by vigour and action, and I suggest that this must always be so. Security must be won; it cannot be dispensed except to slaves.

Even if it were true that a large majority of Service doctors desire security above everything—and it is doubtful—it does not follow even apart from the preceding argument that acceptance of the Bill will achieve it. Ministers of Health do not hold office for ever, and consistent progress is doubtful if they change frequently; nor is there any evidence that they will be very much concerned with our security. Those of us who are also looking for houses are not unaware that the source of the present Bill is the one which forgot that bricks are needed for houses. In fact this rather elementary architectural lapse makes us wonder if similar omissions in the much more complex and much more important task of building health are not perhaps concealed in the new Bill. It would be tedious to go into details, but among the possibilities are that there may not be enough doctors, that housing and education are more important than health centres and certificates, that our patients need servants and not masters, that suffering humanity needs personal care not official patronage. Government action inspired by political motives, as it usually is, cannot be a substitute for personal action inspired by humane motives.

No, Sir, considerations like these do not create such confidence that we are eager to trust our security to any Minister, whatever his blandishments, financial or otherwise. It is not correct to assume that all we are waiting for is direction from on high, happy in the thought that we shall be well looked after and need never think for ourselves again. Some of us have had experience of this type of security. Are we to appease, thinking of our pockets, to be neutral and inert on grounds of security, or are we to act in accordance with fundamental principles.—I am, etc.,

P. A. GARDINER,
Sqd. Ldr., R.A.F.V.R.

Selling Out the Profession

SIR,—An ancient profession such as ours is something which has come down to us through the centuries and is likely, so far as anyone can see, to last for all time coming. It is something which one generation of doctors passes on to the next. It is far too big a thing for the doctors of this generation to hand over lock, stock, and barrel to the local authorities or the present Government. It is just conceivable, of course, though I doubt it, that at some dim and distant date when the world is a much better place than it is to-day the then generation of doctors might be justified in handing over our profession to some kind of international body as a gesture, say, for international peace, but this would apply to the doctors not of one country only but of all.

Let us take long views in this matter. The local authorities have been concerned in the treatment of the sick in any great numbers only during the past 25 to 30 years. Now, it seems, most of this work is to be taken from them. Who would have dared to prophesy five years ago that this withdrawal of their powers would be contemplated to-day? Who knows but that in another 50 years the Government of this country will have nothing whatever to do with medical or surgical treatment?

Having given much thought, then, to the vital question exercising all our minds to-day, I can come to no other conclusion than that it would be utterly wrong for us to give up our present right to buy and sell our practices, accepting in return for this sacrifice compensation at the hands of the Government. After all, a perfectly good medical service is quite possible without selling out our profession. I sincerely trust doctors will decide accordingly. I also hope they will reject the idea of a basic salary, as payment on any other than a capitation basis would be almost as dangerous to our profession's welfare as a lost right to buy and sell its practices.—I am, etc.,

Glasgow. J. INGLIS CAMERON.

Competition in a Whole-time Service

SIR,—In one of the explanatory paragraphs on the principles adopted by the Negotiating Committee appears the following statement: "It [a whole-time salaried medical service] might tend to replace competition for patients by competition to avoid them." The implication is that this would necessarily be bad. Is this really so? The panel doctor tends to take on many more patients than he can treat adequately. Is it not desirable to reduce somewhat the size of practices in the interest of the patient? These remarks apply with equal force to hospital out-patients.

Secondly, in the past there has been a tendency (implicit if not explicit) to confine the number of entrants to the profession to those able to make an adequate living from the practice of medicine. The new Health Service Bill coupled with new educational provisions will make it possible to take in sufficient entrants to secure an adequate medical service for all. The abolition of competition for patients will result in professional welcome for, instead of opposition to, the flow of new entrants. Thirdly, if in the heat of the competition to avoid patients doctors are led to take a renewed interest in public health and hygiene will this be a bad thing for the patient?

Finally, those—and they are many—who experienced the doubtful bliss of long periods of enforced idleness as a result of the war will remember the enthusiasm with which patients when they finally did appear were greeted by whole-time salaried servants of the State,—I am, etc.,

St. Mary Cray, Kent. BRIAN H. KIRMAN.

Naples Typhus Epidemic

SIR,—I was very glad to read Lieut.-Col. H. J. Crauford-Benson's notes (April 13, p. 579) on the Naples typhus epidemic. Many references have been made to the Naples typhus epidemic, in both the lay and medical press. In the majority of these the impression is given that the outbreak was terminated solely by the large-scale use of D.D.T. As Crauford-Benson points out, such statements require considerable qualification.

D.D.T. was brought into use at a relatively late stage of the epidemic. Large-scale dusting of the Neapolitans with this insecticide began at a time when it was evident that the initial methods employed had brought the epidemic under control. Its arrival in the field was nevertheless timely. This non-irritating, persistent insecticide is the ideal agent for dealing with an undisciplined populace, when regular bathing and laundry facilities are absent. The setting up of the mass delousing scheme, and the intensification of other control measures, so energetically pursued by the U.S. Typhus Commission, turned the defeat of the typhus enemy into a complete rout.

The Allied Armies and the civilians employed by them did not use D.D.T. They were protected by periodic dusting with insecticides containing pyrethrum or derris. This was done quickly and efficiently by hand-gun or power-gun apparatus. The number of civilians protected by inoculation was negligible, whilst when the epidemic was at its height the British Army inoculation rate was considerably less than 100%. The most important preventive measure employed was, therefore, the mechanical use of insecticide powders (for preventing lousiness as well as for treating infested individuals) using *any* efficient insecticide.

There was also a rigid military discipline, a highly organized scheme for case-searching, contact-dusting, and hospitalization, together with intensive military and civilian propaganda, and control of movement in and out of Naples. All these measures contributed to the cutting short of the outbreak and the prevention of spread to the Allied Forces. The control of civilian movement was, for various reasons, the least efficient part of the organization, and as a consequence many new foci of infection occurred in villages and towns outside Naples. Each of these had to be dealt with separately.

Many lessons were learned in Naples. First, the value of mechanical dusting methods was established beyond question. Secondly, the large-scale use of D.D.T. showed it to be a most remarkable insecticide, which, though somewhat slow in effect, possessed a residual action which prevented re-infestation. Finally, that this method of large-scale disinfestation, invaluable though it is, must still be regarded as only one of the many measures to be put into operation to combat a typhus outbreak. It should also be mentioned that the whole-hearted co-operation of the British and American medical services, with the pooling of resources of personnel and equipment, contributed in no small measure to the success of the undertaking. An account of the epidemic, with particular reference to the preventive action taken by the British Army, is in course of publication, and in this emphasis is laid on the points mentioned above.—I am, etc.,

H. D. CHALKE, Col.,
Late Senior Hygiene Officer, Allied Armies in Italy.

London, N.W.6.

Sjögren's Syndrome with Rheumatoid Arthritis

SIR,—In their article on iritis in the rheumatic affections (April 20, p. 597) Prof. A. Sorsby and Dr. A. Gormaz remark: "Moreover, rheumatoid arthritis seems to be part of the Sjögren syndrome." They refer to H. Sjögren himself (1940) in *Modern Trends in Ophthalmology* (ed. Ridley and Sorsby, p. 403). From the literature I also referred to the apparent association of rheumatoid arthritis with Sjögren's sydrome, in a paper regarding non-ocular features of Sjögren's syndrome (*Brit. J. Ophthal.*, 1945, **29**, 299), but, though rheumatoid arthritis is fairly common in this country, I have never myself seen nor have I heard of an example (in this country) in which it has been accompanied by Sjögren's syndrome. It would be interesting to hear if Prof. Sorsby or Dr. Gormaz have.—I am, etc.,

F. PARKES WEBER.

London, W.1.

Suprapubic Drainage of the Bladder

SIR,—Perhaps I have unintentionally diverted the important points raised by Mr. E. W. Sheaf (March 2, p. 331). It is well known that scarring from a suprapubic sinus, notably one of long duration, is troublesome in a subsequent prostatectomy. Being right-handed, the higher it is the greater my difficulty. Excision of the scar may involve opening the peritoneal cavity or wounding small intestine, which indeed seems to be attracted to it, together with the omentum, by the inflammation present. This attraction sometimes occurs when the sinus is situated low down.

It is generally recognized that sufficient space should be left for the lowest part of the Hamilton-Irwin apparatus to rest well above the bone, so that the fit of it is not interfered with and no excessive pressure has to be used. With this in mind the skin incision is planned accordingly. In my own apparatus this point did not arise, but that apparatus was troublesome to work, rather messy, and sometimes failed, especially on a phosphate-coated skin, so that its replacement by Irwin's apparatus was welcomed. The apparatus is now only of historical interest, as having been the first of such things, and its manufacture has been discontinued.

Puncture of the bladder can evidently be made either backwards and upwards or backwards and downwards according to an estimate of the size of the viscus after it has assumed its more permanent state. A small, thick-walled bladder, which requires rest to allay an intense and frequent desire to micturate, if punctured in a downward direction is apt to cause the trocar to skid. By stretching the lower end of the incision downwards such a bladder can be entered more easily in the upward direction. Whether the low position of the sinus causes more subsequent contracture of the bladder than a highly placed one is a difficult matter to decide in the presence of so many other factors.—I am, etc.,

G. H. COLT.

London, W.1.

Physical Therapy in Mental Disorder

SIR,—I appreciate Dr. Skottowe's criticism (April 6, p. 548) of the official recovery rate, but in my previous letter I also pointed out various factors which must be considered in assessing its value, and might have added others. For instance, in the Board of Control's annual report for 1928 the following passage occurs: "There was, as usual, a marked difference between the county and the borough mental hospitals with respect to recovery rates, the percentages being 29.7 and 37.1, respectively, a subject which, when opportunity presents, we propose to investigate." I do not know what the figures are now, but imagine the difference would be less, except perhaps in the more remote and sparsely populated areas. The fact that voluntary patients have been admitted to public hospitals for a number of years may cause a slightly increased recovery rate as compared with that of the past. While in a number of cases the term "voluntary" is hardly appropriate, yet it implies the admissions of some mild cases of a type which would be unlikely to be sent to mental hospitals in former years, and presumably usually favourable as regards prognosis.

Dr. Skottowe's "useful discharge rate" is of much interest. I have observed in recent articles on convulsive therapy a tendency to use the word "remission" rather than "recovery." The idea I had in mind when I wrote to you, Sir (March 23, p. 447), was that if convulsive therapy is of benefit, then there must be an increased recovery rate, and mistakes in diagnosis would not matter. If there is no increased rate that would imply that the patients who received shock treatment and recovered would have done so in any case. Owing to causes due to the war, I doubt if, at present, the Board of Control would be in a position to state, by the statistics they receive, whether this treatment has been of general benefit or not, but in the course of a year or two they should be in a position to do so. In an article in the *Journal of Mental Science* (January, 1944, p. 435) Dr. L. C. Cook summarizes by stating that the position of convulsive therapy in schizophrenia remains controversial, but that in affective states its value is not open to doubt. He does not, however, state whether in his opinion it has caused an increase in the general recovery rate. From Dr. Skottowe's high "useful discharge rate" in 1945, allowing for his comparatively small admission rate, it is evident that

very good results can be obtained by other means. While I have stated that it may be some time yet before the question can be settled, it would be of much interest if some medical officer, who has used the treatment extensively, would state whether he considers it has caused an increased general recovery rate in his hospital as compared with the rate for that hospital prior to the introduction of convulsive therapy, assuming that the types of the admissions were more or less constant.

In regard to Dr. Wright Lambert's letter (April 13, p. 589) my statement that Shaw Bolton found micrometric deficiency was made from memory of his work *Amentia and Dementia*, which ran through the *Journal of Mental Science*, 1905–8. I note from an old medical directory that, in the same journal in 1901, he published "Histological Basis of Amentia and Dementia," and that in the 1910 journal G. A. Watson published "Observations on Morbid Anatomy of Mental Disease." Knowing of the fine work done by the Lancashire asylum pathologists early in this century, and remembering especially that done by Drs. David Orr and R. G. Rows, I should be sorry not to have given due honour to Dr. Watson, but it would appear that Dr. Shaw Bolton was the first at all events to publish the matter. I am glad to know that Watson believed dementia praecox to be the result of an innate anatomical deficiency, and I certainly share his view. I would again urge that more pathological work be done, especially, if possible, to discover the early lesions in mental disease. The difficulties are many. There are few deaths, and it is not easy to get normal brains as controls. Post-mortem changes have to be allowed for, and artefact considered. Many people are now in favour of cremation, and if a person desires to be cremated, surely that person could not object to his brain being examined after death. It would certainly be of value to cerebral pathology if intelligent persons would allow this. It has occurred to me that the brains of war criminals who receive the death sentence could be removed very soon after death, and thus, after doing so much harm in life, they might do a little good after death! These latter remarks are a digression from the subject of convulsive therapy, but I am sure those who practise it would like to add to their knowledge of the histopathology of the brains they work upon.—I am, etc.,

Hastings. HARVEY BAIRD.

Smallpox in the Vaccinated

SIR,—Dr. Killick Millard states (April 20, p. 625) that the child population is at present protected from smallpox by vaccination as the members of his staff on smallpox duty were. He suggests that the abolition of compulsory vaccination is not likely to be followed by an increase in the mortality from smallpox. It seems to me illogical to think that so large an increase in the unprotected population should not be followed by an increase both in the numbers and severity. At present our freedom from smallpox depends on the vigilance of our port sanitary officials. With the increase in air transport many infected people might arrive in this country apparently in perfect health.—I am, etc.,

Erdington. ROBERT ANDERSON.

Tropical Medicine

SIR,—In the *Journal* of Jan. 19 (p. 102) there are two letters under the caption "Tropical Medicine in the United Kingdom." Will you allow me to point out to your readers that probably the largest hospital in the Empire for tropical diseases is that situate in the 3,000,000 city of Calcutta. It is most efficiently staffed. It has many doctors taking the D.T.M. course who are also engaged upon research. The medical papers, records of treatment upon several million cases, the medical books published by the staff are a gold mine—vide Col. Napier's latest two-volume book.

My suggestion is that our future tropical disease specialists should have some training in that hospital, and that medical men at home should consult the papers and books mentioned before treating patients. If this suggestion be carried out some at any rate of the tragedies of the S.E.A.C. campaign might be avoided in future.—I am, etc.,

H. E. RAWLENCE,
Late Residency Surgeon in Kashmir.

Bombay.

"Congenital Malaria"

SIR,—With reference to Dr. I. G. Cameron's letter (April 6, p. 544), during the twenty years (Jan., 1922–Dec., 1941) that I spent in Singapore, in charge of the maternity hospital there, we had over 71,500 deliveries. Many cases of malaria were seen. In 1938 we had 241 cases of malaria in 5,551 deliveries. Yet in only one case—a European—can I say the malaria was transmitted before birth.

The patient, a primipara, was admitted with subtertian malaria, and on the sixth day after a normal delivery the child had fever and S.T. parasites were found in its blood. For some months after that blood was taken from the cord at delivery in all cases where the mother had, or had had, malaria, but in no further cases were the parasites seen. The marvel to me is that there are not more cases on record considering the intimacy of the two blood streams.—I am, etc.,

Lisburn, Ireland. J. S. ENGLISH.

"Cord Round the Neck"

SIR,—I am indebted to Dr. H. Tudor Edmunds for his observations (April 13, p. 588) on stillbirth in association with cord round the neck. I have noted the condition in two successive labours in a multipara. On the first occasion the woman was delivered of a female child, stillborn, attributable to the cord round the neck. In her next labour she was allowed to deliver herself naturally and gave birth to a male child, stillborn, attributable to the cord round the neck. I concluded that the cause of death in each case was asphyxia due to strangulation. —I am, etc.,

Harthill, Lanarkshire. S. H. P. MCLAUCHLAN.

SIR,—I was much interested in reading the letter by Dr. H. Tudor Edmunds as I have had a similar case in which the cord was 5 ft. (1.5 m.) long and seven times round the neck; no interference with the circulation and the child was born alive. At the time I felt it was a record length of cord, but Dr. Edmunds's case beats it. I might mention that I once had a case where the cord was only 6 in. (15 cm.) long and yet round the child's neck once—in a primipara. The cord was stretched till it looked like a thick piece of string. It had to be cut before delivery could be obtained and the child naturally was dead. After the confinement was finished I measured the total length of the cord and found it exactly 6 in.

Another interesting record case I once had was where a woman in labour had a most abnormally large abdomen with such an enormous quantity of liquor amnii—on emptying, it gushed on to the floor, ran out of the room, under the front door, down two steps, across the pavement, and just reached the gutter.—I am, etc.,

Hove. E. MISKIN.

Spontaneous Hypoglycaemia

SIR,—With reference to the very interesting paper by Dr. N. G. Hulbert and Mr. R. J. McNeill Love on subtotal pancreatectomy in a case of spontaneous hypoglycaemia (April 20, p. 603) I would like to confirm that in such cases as described operation is fully justified. My own modest experience comprises only three similar cases, but I had the privilege to hear an unforgettable lecture by Prof. Evarts A. Graham of St. Louis, when he was a guest professor to this country in July, 1939, on what he called "The Applied Physiology and Surgery of Hypoglycaemia." May I quote the following points from the notes I made then, for what they are worth.

(1) The biggest tumours of the islets of the pancreas he (Graham) had seen at that time weighed 500 g. The smallest visible tumour to the naked eye had a diameter of only 5 mm. This is one of the reasons for the difficulty in finding the tumours in many cases.

(2) There are, incidentally, cases in which paroxysmal attacks of spontaneous hyperinsulinism exist without any apparent pathological change in the pancreas. In such cases it has to be assumed that there is a hyperfunction of normally shaped islet celis, and Prof. Graham removed up to 80% of the pancreas with good results in several cases. One patient, a small child, had been followed up for two years after the successful operation when he made his statement.

(3) Bigger tumours look, frequently, like a carcinoma macroscopically but turn out to be adenomas on microscopical examination.

(4) Post-mortem examination of the pancreas in cases of diabetes mellitus revealed tumours of the islets in a surprising number of cases.

(5) Two cases of Graves's disease of his own observation were mentioned. In one, paroxysmal attacks of hypoglycaemia began after thyroidectomy. On exploration an adenoma of the pancreas was found and removed. The hypoglycaemic attacks disappeared, but signs of myxoedema developed. In the second case of Graves's disease with low blood sugar and hypoglycaemic attacks the pancreas was explored. No tumour was found, but 80% of the pancreatic tissue was removed. After that not only did the hypoglycaemic attacks cease but the symptoms of the Graves's disease also disappeared.

I thought that these notes might be of interest as I have not seen them recorded at the time, and I hope that they reflect Prof. Graham's statement fairly correctly.—I am, etc.,

London, S.W.3. V. C. MEDVEI.

Hospital Administration

SIR,—Your leading article entitled "The Hospitals" (April 13, p. 575) contains a deliberate attack on medical superintendents and resident medical officers of municipal hospitals in general which does not appear called for on grounds of political expediency and is certainly quite contrary to the facts. We realize that in any considerable body of men there will usually be some isolated individuals who do not accept the standards of outlook and behaviour respected by the body as a whole, but we strongly repudiate and resent the suggestion that more than a few isolated examples occur. To appropriate words attributed to the Secretary of the British Medical Association five pages later in the same issue of your *Journal*: "Those who maintain that our profession is obstructive and stands in the way of a better health service either do not know the facts or are wilfully misrepresenting them for their own purpose." Or, Sir, are you advocating lay control of all hospitals, and thus opposing the fundamental B.M.A. maxim of "No lay control?"—On behalf of the Medical Superintendents' Society, we are, etc.,

J. J. O'REILLY, President,
R. KELSON FORD, Chairman of Council,
London, W.C.1. JOHN M. MILLOY, Honorary Secretary.

The National Hospital, Queen Square: A Disclaimer

SIR,—During 1945 a group of private persons interested in ascertaining the cause of, and in finding a cure for, paralysis agitans, approached the National Hospital, Queen Square, and voluntarily forming themselves into a "Parkinson's Research Society," decided to raise funds to support research into diseases of the nervous system with special reference to paralysis agitans. At a meeting held at the hospital in July, 1945, the members elected a chairman and committee and, by donations and covenants, provided a sum of money which was handed to the hospital for the prosecution of the research in question. To this lay committee was added a member of the honorary medical staff of the hospital, while I became the honorary secretary of the society.

Steps had been taken to start this enterprise when, early in this year, it came to my knowledge, and to that of members of the honorary medical staff, that the chairman of the society, without previous consultation with the hospital authorities and upon his own initiative, was notifying members of the society and some sufferers from paralysis agitans, by letter, that in fact the cause of the disease had already been found to be bacterial and that a cure for it had been discovered. The name and address of a medical practitioner not connected with the National Hospital, in respect of whom these claims were made, was given in these letters, and patients were advised to put themselves under his treatment.

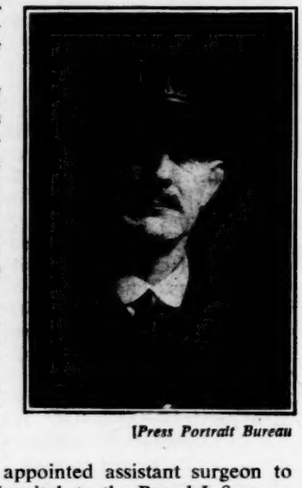
The board of management of the National Hospital is advised by its medical committee that these claims cannot be endorsed, and that it is not in the public interest that the hospital should collaborate with an organization that sponsors and gives publicity to them. I am therefore authorized to ask the courtesy of your columns for an announcement that the National Hospital dissociates itself wholly from the Parkinson's Research Society and from all claims made by it. The chairman of the society has been so informed and the two members of the society's committee who are connected with the hospital have resigned from it. The members of the society are being offered the return of their donations and subscriptions which were given to the hospital for the purposes of the proposed research.—I am, etc.,

H. EWART MITCHELL,
The National Hospital, Queen Square, W.C.1. Secretary.

Obituary

SIR HAROLD STILES, K.B.E., LL.D., D.Sc., M.B., C.M., F.R.C.S.Ed.

Sir Harold Stiles, the greatly gifted Edinburgh surgeon, died on April 19 at his home at Gullane, East Lothian, aged 83. An Englishman, he went to Edinburgh as a student, and the whole of his professional life, apart from war service, was spent there. Twenty-one years ago, at the height of his fame, he retired from practice and teaching and, with a mind still keen and fresh, devoted himself to geology, and later, when physical activities had to be cut down, made botany his main interest. He joined the B.M.A. soon after qualifying and held office in Scientific and Clinical Sections at four Annual Meetings, including the presidency of the Section of Diseases of Children at Belfast in 1909.



[*Press Portrait Bureau*

Harold Jalland Stiles, son of Henry T. Stiles, M.D., was born in Lincolnshire, at Spalding, on March 21, 1863. His grandfather also had been a doctor, and from boyhood his heart was set on becoming a surgeon. After schooldays at Totteridge Park he entered Edinburgh University and graduated M.B., C.M. in 1885 with first place in the first-class honours list and the Ettles scholarship and Beaney prize. He spent some time as demonstrator of anatomy under Sir William Turner, took the F.R.C.S.Ed. in 1889, and was appointed assistant surgeon to the Edinburgh Sick Children's Hospital, to the Royal Infirmary, and to Chalmers Hospital. Before then he had paid a long visit to the Continent to gain first-hand knowledge of surgical practice in hospitals at Freiburg and in Berne, and his translation of Kocher's *Operative Surgery* became a standard textbook in this country. In 1919 Stiles, who had by then been for some time full surgeon to the Royal Infirmary, was appointed to the Regius Chair of Clinical Surgery at Edinburgh in succession to Prof. Francis Caird, and when he retired from the chair in 1924 he became Emeritus Professor and many high tributes were paid to him. Not only did he win early distinctions at Edinburgh, but in 1895 the Royal College of Surgeons of England awarded him the first Walker prize as having done the best work during the previous five years in advancing knowledge of the pathology and therapeutics of cancer. In the 1914–18 war he served in the R.A.M.C. with the brevet rank of colonel, and was appointed a member of the commission which investigated the administration of military hospitals in France and Britain; he also did fine work for wounded soldiers at Bangour Hospital, especially in the realm of orthopaedics.

Sir Harold Stiles was a past-president of the Royal College of Surgeons of Edinburgh and of the Association of Surgeons of Great Britain and Ireland; an honorary graduate of the Universities of St. Andrews, Edinburgh, and Leeds; an honorary Fellow of the American Surgical Association and the American College of Surgeons; and an honorary member of the American Medical Association, the British Orthopaedic Association, and the Royal Academy of Medicine, Rome. He was created a knight in 1918 and a K.B.E. in 1919; he was also Extra Surgeon to King George V in Scotland. These and other honours reflected the fame he had won in the eyes of colleagues at home and abroad. Harold Stiles's power of intense concentration, his self-reliance in judgment and action, and his technical brilliance as an operator won him a unique place in the Edinburgh Medical School. Few surgeons of his time can have equalled him in sheer craftsmanship or in mastery of the foundations of good surgery. He gave up practice in 1925 in a manner characteristic of the man, making

a clean cut from professional and public ties, except those of friendship. In a personal letter written nine years ago he described himself as "not idle though one of the unemployed," and of his geological pursuits he wrote: "Living in the past is a privilege of old age, and my hobby carries one back for about 2,000 million years and gives me more scope for reflection and imagination than surgery did!"

S. P. JAMES, C.M.G., M.D., F.R.S.
Lieut.-Col. I.M.S.(ret.)

Lieut.-Col. Sydney Price James died at the age of 74 on April 17 at Chichester after a short illness. He was a distinguished officer of the Indian Medical Service, who engaged in research work throughout the greater part of his service in India and after his retirement in 1918; especially on malaria, on which he became one of the leading experts.

He was educated at the St. Mary's Hospital Medical School and took the M.B. degree of London University in 1895, the M.D. in tropical medicine in 1906, and the D.P.H. in 1907 while on leave from India. He entered the Madras Medical Service in 1896 and saw active service on the North-West Frontier of India in 1897–8 and in the Boxer Campaign in China in 1900–1. He then joined the recently instituted bacteriological department of research workers, and was nominated by the Government of India as a member of the Royal Society's Malaria Commission in India during 1902–3, an appointment which influenced his whole subsequent career. During this period he was the first to describe a non-malaria three-day (pappataci) fever in the Punjab and to differentiate it from malaria. While working in Madras he had independently discovered that the infection of filariasis is due to inoculation of the young worms through the bites of mosquitoes, and not through water as Manson had suggested. In 1904 James received the coveted Simla post of Statistical Officer with the Government of India; this he held for many years, during which he made short inquiries on kala-azar and on the danger of yellow fever being carried to India. He also wrote a valuable book in 1909 on *Smallpox and Vaccination in India*. Previously he had published in 1902 a report on the causation and prevention of malarial fevers, in which he recorded his work with the Royal Society Commissioners, and in 1904 he wrote with W. G. Liston a monograph on anopheles mosquitoes in India; both of these appeared in further editions. He also edited *Paludism* in 1910–14. During the 1914–18 war he served in an administrative post in Mesopotamia. He retired in 1918 from the I.M.S., but was soon appointed adviser on tropical diseases to the Local Government Board (now the Ministry of Health) and he served on the League of Nations Commissions on malaria in Eastern European countries and on Colonial Office inquiries in East Africa. For his many public services he was awarded the C.M.G. in 1935.

Col. James was a quiet little man, who was more interested in preventive than in curative medicine. During his long service in Simla he was responsible for compiling the annual sanitary reports of the Government of India and wrote valuable summaries of recent advances in medicine for those reports, but he took every opportunity of engaging in research. After he came to work in England he was in charge of the Horton laboratory for making use of malaria therapy for mental diseases, which gave him more time for research. He made such good use of these opportunities that he was elected a Fellow of the Royal Society in 1931. After retiring from his appointment with the Ministry of Health he transferred his energies to the Molteno Research Institute at Cambridge, and latterly lived at Chichester. He thus led a full and useful life with a great variety of interests. He held office as vice-president of the Section of Tropical Medicine at the Annual Meeting of the B.M.A. at Cambridge in 1920 and as president of the Royal Society of Tropical Medicine and Hygiene in 1937–9. He married early in his service and his wife survives to mourn his loss.

SIR RICKARD CHRISTOPHERS, F.R.S., writes:

The announcement of the death of Lieut.-Col. Sydney Price James will be received with feelings of deep regret by malariologists all over the world. His contributions to knowledge of malaria were very great, and especially in the field of the scientific study of drug treatment and prophylaxis he was undoubtedly the first authority. It was not, however, only in the recording of facts about malaria that James's influence made itself widely felt but in the fresh approach and the spirit of interest and enthusiasm which he infused. Looking back one realizes how wide a field in the course of years his activities covered. In his early days we find James almost the first to bring mosquitoes, so to speak, on to the screen as living, interesting creatures—delightful simple descriptions, almost the first ever made—the tiger mosquito and its larva—all very elementary now but quite new then. In 1904 he wrote, with Liston, that early mosquito classic the *Monograph of the Anopheline Mosquitoes of India*, with its plates by Turkhud giving accurate pictures of every then known species of Indian anopheles. In that year he was appointed Statistical Officer with the Government of India. But he still continued his interest in mosquitoes, adding much that was new to the second edition of the monograph and later being editor of *Paludism* and active in bringing about that golden period of research which followed on the Imperial Malaria Conference at Simla in 1910 when the Provincial Malaria Organizations were formed and for the first time the broad facts about malaria in India were ascertained. Later he is on deputation from the Indian Government to visit Panama and seaports between that country and India and to report upon the serious question of how far there was danger from opening of the Panama Canal of the introduction of yellow fever into India—an investigation which led to his being later one of the foremost authorities on this disease and president of the Yellow Fever Commission of the Office International d'Hygiène Publique, Paris. In 1916 sickness contracted in Mesopotamia was followed by his retirement from the Indian Medical Service and his appointment as adviser on tropical diseases to the Local Government Board (now the Ministry of Health). The malaria therapy centre at Horton, constituted towards the end of the 1914–18 war, owed its origin and later development to him. It might so easily have become a centre for routine treatment of general paralysis by blood inoculation. Instead it has been the chief centre in this country undertaking systematic malaria research, investigating clinical aspects of the disease, studying relapses, dealing scientifically with the principles of treatment, testing out new antimalarial drugs, and much else. At Horton was finally established the validity of *P. ovale*. From Horton came the first indications of the existence of strains in malaria—a fact now fully accepted. It was James who brought forward the idea of "causal" prophylaxis, not a very good name in some respects, but embodying an idea that has grown in importance and may eventually be the final answer to prophylaxis of malaria. Then how much should we know of the indigenous malaria of this country were it not for the interest infused by James?

When the League of Nations was formed James threw himself with all his active mind and energy into the wide investigations then made by the Malaria Commission of the League. So also in the war just over, though then retired from his post in the Ministry, he nevertheless again threw himself into the arena, ever intensely concerned in everything to do with what he regarded as the most urgent of all problems connected with malaria—viz., effective prophylaxis and ability to cure the disease. Certainly few can show such a record of work and results as James.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

G. W. Harris, M.D., has been reappointed university demonstrator in anatomy with tenure to Sept. 30, 1948, and M. M. Bull, M.B., B.Chir., with tenure to Sept. 30, 1947. J. Davies, M.B., Ch.B.Leeds, D. A. W. Edwards, M.B., B.Chir., and J. D. Green, B.M., B.Ch.Oxf. have been appointed university demonstrators in anatomy for three years from Jan. 1, 1946.

The Professor of Anatomy gives notice that applications for the Marmaduke Sheild Scholarship in Human Anatomy are to be sent to the Registrary before May 20 in the present term.

In March the titles of the degrees of M.B., B.Chir. were conferred by diploma on M. A. Brown, of Girton College.

UNIVERSITY OF LONDON

The following candidates have been approved at the examination indicated:

ACADEMIC POSTGRADUATE DIPLOMA IN MEDICAL RADIOLOGY.—*Part I:* P. H. Beamish, M. C. Connell, S. Curwen, M. A. Egan, E. E. Faerber, E. H. Hanson, H. S. Hogg, Ethel P. Johnson, Mary J. C. McIntosh, I. L. McKelvie, M. Mandelstam, J. J. Nally, B. Navid, P. E. S. Palmer, G. W. Pimblett, Ella Preiskel, E. J. Richardson, M. P. Shapiro, W. V. Taylor, B. C. H. Ward.

UNIVERSITY OF GLASGOW

The Senatus Academicus proposes to confer the honorary degree of Doctor of Laws on Archibald Wilson Harrington, M.D., formerly Muirhead Professor of Medicine in Glasgow University; on Sir Edward Mellanby, K.C.B., M.D., F.R.S., Secretary of the Medical

Research Council; and on Ronald Aylmer Fisher, F.R.S., Professor of Genetics in the University of Cambridge. The graduation ceremony, at which these and other honorary degrees are to be conferred, will be held on June 19.

At a graduation ceremony on April 13 the degree of M.D. was conferred, with high commendation, on J. B. Morrison.

UNIVERSITY OF DUBLIN

Adams Andrew McConnell, M.B., B.Ch., F.R.C.S.I., has been appointed Regius Professor of Surgery in the University in the room of the late Sir Arthur Ball.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

Election of Fellows

At a quarterly comitia of the College held on April 25, with the President, Lord Moran, in the chair, the following were elected Fellows:

T. F. Fox, M.D. (London); Perrin H. Long, M.D. (Baltimore, U.S.A.); R. E. Roberts, M.D. (Liverpool); Andrew Topping, M.D. (London); G. C. Linder, M.D. (Rondebosch, S. Africa); K. S. Hetzel, M.D., F.R.A.C.P. (Adelaide, S. Australia); H. S. Le Marquand, M.D. (Reading); Gladys M. Wauchope, M.D. (Hove); Lord Amulree, M.D. (London); L. C. Hill, M.D. (Bath); Wilfred Evans, M.B., F.R.A.C.P. (Sydney, N.S.W.); F. B. Parsons, M.D. (Cambridge); E. W. Anderson, M.D. (Exeter); E. G. Robertson, M.D., F.R.A.C.P. (Melbourne, Victoria); G. G. E. Smyth, M.D. (Blackburn); R. Freeland Barbour, M.B. (Bristol); Arthur Willcox, M.D. (Sidcup); A. Morton Gill, M.D. (London); F. Avery Jones, M.D. (London); Alice M. Stewart, M.D. (Cardiff); C. G. Parsons, M.D. (Birmingham); W. T. Cooke, M.D. (Birmingham); Ian Gordon, M.B. (Aberdeen); G. W. Hayward, M.D. (London); E. E. Pochin, M.B. (London); J. W. Aldren Turner, D.M. (London); K. O. Black, M.D. (Poona, India Command); Alan Kekwick, M.B. (London); E. R. A. Merewether, M.D. (London); A. J. Orenstein, M.D. (Johannesburg); J. Douglas Robertson, M.D. (London); Emanuel Miller, M.R.C.P. (London); Robert Cruickshank, M.D. (London); F. R. G. Heaf, M.D. (London); John McMichael, M.D. (London).

Prof. James Mackintosh was appointed to represent the College at the Health Congress of the Royal Sanitary Institute and Prof. Alan Moncrieff on the Medical Advisory Committee of the Colonial Office. Lord Moran was elected a representative of the College on the governing body of the British Postgraduate Medical School and Dr. W. S. C. Copeman on the committee of management of the Chelsea Physic Garden in succession to the late Dr. J. D. Rolleston. Dr. G. E. S. Ward was appointed an external examiner in medicine for the Fellowship Examination of the Faculty of Radiologists.

On the nomination of the Council the following were elected representatives of the College: Dr. F. S. Langmead on the Central Midwives Board: Prof. James Mackintosh and Dr. I. E. McCracken as examiners for Part I of the D.P.H., and Dr. J. Bishop Harman on the Committee of Reference and the Central Medical War Committee.

The President reported that he had nominated a committee to consider the prevention and management of rheumatic heart diseases.

Membership

The following candidates, having satisfied the Censors' Board, were elected Members:

M. Abdel-Malik, M.B., M. Z. Ahmad-Souidan, M.B., F. P. Antia, M.D., A. Batty Shaw, B.M., W. D. Brinton, B.M., J. B. Cavanagh, M.B., J. Colover, M.B., G. M. Colson, B.M., E. Cronin, M.D., J. H. Dadds, M.B., A. J. Daly, M.D., P. R. C. Evans, M.B., F. J. Flint, B.M., P. B. S. Fowler, B.M., J. P. Gemmell, M.D., P. W. Hardie, M.D., H. F. Harwood, M.D., M. A. Jalili, M.B., W. E. J. Jones, M.D., J. W. Landells, M.B., E. H. Larkin, M.B., S. H. Llewellyn Smith, B.M., M. J. G. Lynch, M.B., M. B. Matthews, M.B., B. E. Miles, M.B., R. I. Milne, M.B., J. D. N. Nabarro, M.B., Lucy M. B. Nelson, M.B., D. P. Nicholson, M.B., S. Oleesky, M.B., W. S. Peart, M.B., L. G. Picciotto, M.B., T. R. E. Pilkington, M.B., R. J. P. Pugh, M.B., Elizabeth V. Rohr, M.B., D. W. Smithers, M.D., P. N. Taneja, M.D., D. Taverner, M.D., D. J. Thomas, M.B., C. B. M. Warren, L.R.C.P., Marcia I. P. Wilkinson, B.M., K. A. A. Wray, M.B., C. H. Wyndham, M.B., R. K. W. Yang, M.B., J. Yudkin, M.D., J. V. Zammit-Maempel, M.D.

Licences

Licences to practise were conferred upon the following 125 candidates (including 32 women) who had passed the Final Examination in Medicine, Surgery, and Midwifery of the Conjoint Board, and who have complied with the necessary by-laws:

Queenie M. F. Adams, J. Aminoff, R. Armatage, J. N. Badham, J. K. Baird, Roberta S. J. Baker, D. V. T. Baldwin, D. H. Barnbrook, M. S. Bentley, A. J. Berman, P. Blackledge, A. G. Brown, J. Butler, A. R. C. Butson, Margaret J. S. Caton, Monica L. Chalmers, J. Chalom, G. B. Chamberlain, A. O. Chase, I. C. Church, J. F. Cleobury, Betty L. Coles, A. P. Cornwell, L. T. Cotton, J. C. M. I. Cox, J. L. Crammer, D. T. Crook, R. R. Davis, Nina Dawson-Reid, J. F. Delafresnaye, D. J. Dennison, W. R. Denny, R. de A. Denton-Cardew, Margaret M. Dickinson, J. H. O. Earle, Hilda A. Elman, J. B. D. Evans, H. S. Eyre, A. J. Fouracre, Joan E. Garside, J. Z. Garson, Dorothea E. Garwood, Marjorie Golomb, F. R. Goodwin, R. V. H. Goulder, Joyce F. Grant, I. R. Gray, E. P. Hall, Joyce Hanscomb, Dorothy A. Harvey, J. R. Hawkings, T. D. Hawkins, L. M. Henry, C. W. J. Hingston, K. J. Hoffmann, Philippa A. Howard, D. H. Isaac, J. P. Jackson, Gillian F. Jacob, Maureen B. Jeffrey, P. Jordan, Ellen M. Knight, Barbara M. Leach, G. L. Leathart, R. E. Leighton, T. R. Littler, Joan N. Mackover, H. R. Macleod, B. MacMahon, Anne Maguire, I. W. H. Mansfield, Joan C. Mason, J. W. B. Matthews, J. G. Millichap, M. L. Montagnon, J. D. Montagu, R. A. Morris, A. H. G. Murley, D. P. North, H. Nussbaum, D. W J. O'Neill, O. Pacovsky, Hilary C. Parton, F. Patuck, Phyllis H. Phipps, Margaret H. Pond, M. J. Raymond, J. A. Reynolds, E. F. W. Richards, Stella M. Ring, K. D. Roberts, G. Robins, M. Roper, J. D. S. Rowntree, F. C. W. Royle, J. N. Sampson, P. R. B. Sankey, R. O. K. Schade, O. C. A. Scott, R. F. M. Seaborn, F. W. R. Seward, V. E. Sherburn, Alice M. Sibly, D. R. Smith, Pamela M. Smith, J. Sutcliffe, Bernice A. Tanner, J. J. Teeuwen, R. G. Thomas, L. F. Tinckler, J. K. Trotter, J. Walsh, J. I. Wand-Tetley, E. H. P. Warburton, Sylvia D. M. Waters, W. R. Wardill, A. P. H. Wilkinson, R. H. L. Wolfsohn, F. J. Woodley, Ann Wyatt, H. W. Wyile, P. M. Yap, Stella Yeomans, S. C. B. Yorke.

Diplomas

Diplomas in Ophthalmic Medicine and Surgery (22) and in Physical Medicine (3) were granted, jointly with the Royal College of Surgeons of England, to the successful candidates whose names were published in the report of the meeting of the Royal College of Surgeons of England in the *Journal* of March 30 (p. 509).

Diplomas in Medical Radio-Diagnosis, in Medical Radio-Therapy, in Tropical Medicine and Hygiene, and in Child Health were granted, jointly with the Royal College of Surgeons of England, to the following successful candidates:

DIPLOMA IN MEDICAL RADIO-DIAGNOSIS: J. C. Bishop, J. D. Dow, N. E. Dunn, E. E. Faerber, M. H. Fainsinger, K. H. Gaskell, H. B. Howell, G. B. Locke, V. G. Peckar, G. W. Pimblett, G. L. Rolleston, O. E. Smith.

DIPLOMA IN MEDICAL RADIO-THERAPY: W. G. Evans.

DIPLOMA IN TROPICAL MEDICINE AND HYGIENE: J. G. Makari, G. J. Murray.

DIPLOMA IN CHILD HEALTH: Enid I. M. Addenbrooke, Sheila W. Anderson, Muriel C. Andrews, Margaret M. Ballantine, Laura M. Bates, D. W. Burnford, Ethel F. Caplan, S. Chaudhuri, J. D. Cruikshank, Barbara S. Davies, A. M. D'Cotta, Elizabeth S. A. de Wit, Constance M. Duddle, S. P. Dundon, H. L. LeV. D. Durell, Frances M. Earle, B. E. Finch, J. E. Francis, Margaret Garnett, Elinor Ginsbury, P. R. Headley, G. Hildick-Smith, Dorothy D. Jones, H. M. Khan, S. Koweity, Winifred M. Markham, Nancy S. Marshall, B. McNicholl, Margaret Middleton, Joyce B. Mole, D. Naidoo, Catherine A. Neill, C. O'Donovan, C. Ounsted, Eileen E. Perry, Mildred I. Pott, T. H. Powell, Máire M. Pugh, J. Revans, A. P. Roberts, Doreen C. B. Stevenson, G. L. Stumbles, Janet Sutherland, P. N. Taneja, Megan J. Tanner, Mary Townsend, Morwenna M. Tunstall-Behrens, Patricia B. Vicary, J. R. D. Webb, Mary E. Wehner.

Medical Notes in Parliament

Budget Concessions

In the Budget statement for 1946–7, made on April 9, Mr. DALTON proposed that the earned income relief from income tax should be increased to one-eighth, subject to a maximum allowance of tax of £150. The increase would operate for the whole year, but effect would not be given to it until the second half of the year. The allowance in respect of a wife's earned income would be increased from a maximum of £80 to a maximum of £110. It was proposed to free from duty certain cocoa materials used for the production in this country of theobromine. Exemption from purchase tax was proposed for epidiascopes. The duty would be reduced to 33⅓% of the wholesale value on bags, pouches, and similar receptacles, of leather, hide, or skin, designed for use solely for the purposes of any trade, profession, employment, or vocation, and unsuitable for use for other purposes. A similar reduction was made in photographic cameras, enlargers, projectors, lenses, and unexposed sensitized photographic paper, plates or film.

Infantile Paralysis in Singapore

Mr. BELLENGER reported on April 9 that he was aware of an outbreak of infantile paralysis in Singapore. Up to March 26 17 Army cases with 6 deaths had been notified. Thirty-three cases with 6 deaths occurred in the other Services. The outbreak was first reported in a signal dated Feb. 20. A research epidemiologist nominated by the Medical Research Council left by air on March 2 to investigate the outbreak, and, in preliminary reports dated March 13 and 19, gave his opinion that the outbreak had passed its peak and that all possible measures were being taken to prevent a recrudescence. The outbreak had been attributed to the presence of carriers of the virus in surroundings where, owing to Japanese neglect, unsanitary conditions favoured the spread of the disease. The incidence was mainly among young Chinese children. Cases occurring among Service personnel were believed to have originated from contact with carriers or cases among the civilian population.

Release of Doctors

On April 11 Mr. HECTOR HUGHES asked Mr. Bevan whether the view which he expressed some months ago of reducing the number of doctors serving in the Forces to a ratio of about 2% of personnel had been achieved, and how many of the doctors so released since VE-Day were Scottish doctors who had returned to practise in Scotland. Mr. BEVAN replied that if Mr. Hughes had in mind the ratio of 2 per 1,000 referred to in Mr. Bevan's reply to Colonel Stoddart-Scott on Dec. 13, the answer was "Yes." The number of doctors released from the Forces since VE-Day included 926 who were recruited from

Scotland, but it was not at present known how many of these had returned to practise in that country.

Nursing and Domestic Staff of Hospitals

Mr. JOHN MORRISON inquired on April 11 in which category of hospital—voluntary or municipal—the shortage of nurses was greater. Mr. BEVAN said shortage of nurses was in general greater in the municipal hospitals, which included tuberculosis sanatoria and a large number of beds for the chronic sick.

Mr. ISAACS announced on April 11 that the Government had decided to admit foreign women for domestic employment in hospitals. It was proposed to approach the Governments of a number of European countries with a view to extending to those countries a recruitment scheme now successfully operating with the assistance of the Belgian Government. In addition it would be open to hospitals to apply for permits for the admission of individual foreign women.

E.M.S. Service and the Defence Medal

Sir E. GRAHAM-LITTLE asked on April 15 for what reasons the award of the Defence Medal was withheld from medical staffs who had given service in the Emergency Medical Service and other war work, while subordinate hospital servants such as theatre porters and mortuary attendants were eligible for the award. Mr. ATTLEE replied that hospital officers and servants, other than nurses and midwives, were not, as such, eligible for the award of the Defence Medal. It was granted to civilians primarily for civil defence service. Medical officers of the civil defence first-aid services were eligible, subject to the approved conditions. If medical officers of hospitals, whether in the E.M.S. or otherwise, were included, it would be difficult to exclude any qualified medical practitioners and it was hard to see where the line could be drawn.

General Medical Council

Sir HENRY MORRIS-JONES asked on April 18 whether Mr. Herbert Morrison would consider reviewing the present constitution and powers of the General Medical Council in view of a recent decision of the High Court. Dr. MORGAN, on the same date, suggested legislation to reform the Medical Act of 1898 "to give the General Medical Council a more democratic constitution, and especially to make provision for the hearing and investigation of unethical or unlawful charges against medical practitioners by an independent tribunal presided over by a judge." Dr. MORGAN suggested, alternatively, the setting up of a Select Committee to review the functions of the present G.M.C. and consider any changes necessary in its constitution and procedure.

Mr. EDE said he had been asked to reply. He understood that the G.M.C. itself appointed a committee in November, 1944, to consider the consolidation and amendment of the Medical Act. He assured Sir Henry and Dr. Morgan that the whole position was being examined. The possibility of legislation at a suitable opportunity would be kept in mind.

Sir HENRY MORRIS-JONES said he made no reflection on the impartiality of the Council but asked if Mr. Ede knew there was grave doubt about its competency to deal with the issues it had to decide. He asked Mr. Ede to inquire into the possibility of strengthening it on the general-practitioner side, "over which class of doctor it has virtually the power of ruin on the uncorroborated evidence of neurotic women." Mr. EDE said he would pass these observations to Mr. Morrison.

Dr. MORGAN asked whether it was right that the G.M.C., the body which needed reform, should be asked to reform itself. Was it not for the Government to see that errant doctors got justice according to the law? Mr. EDE replied that self-reform was always a desirable occupation, but he would tell Mr. Morrison that Dr. Morgan thought a little stimulus from outside might assist. Mr. HECTOR HUGHES said it was wrong in principle that the G.M.C. should be judge in its own cause and wreck the careers of people on inadequate evidence.

Dr. MORGAN termed Mr. Ede's reply unsatisfactory and gave notice that he would ballot to raise the subject on the adjournment.

Deafness in Children.—Miss ELLEN WILKINSON states that she has no definite evidence of an increase in the incidence of deafness among children, but there appears to be a growing appreciation among parents of the importance of early diagnosis and treatment and increasing demand for special school education for the younger deaf children. There are 43 special schools for the deaf with accommodation for 4,230 children in England and Wales.

Notes in Brief

The number of civilian patients under care in mental institutions in England and Wales under the Lunacy and Mental Treatment Acts at the end of 1938 was 158,723 and, at the end of 1944, 146,268.

During the war years no case of yellow fever among British troops has been notified from Gibraltar or any other area.

Release by the Admiralty of the Physiology Department of University College Medical Faculty, and by the infestation branch, Ministry of Food, of the anatomy building of the same faculty, will take place in stages, beginning, it is hoped, at the end of April.

A ration of 2 oz. of cooking fat, compared with the normal civilian ration of 1 oz., has been made available for persons suffering from tuberculosis whose condition entitles them to the special milk allowance.

During the three years 1943, 1944, and 1945, 184 prison or Borstal inmates were selected for psychiatric investigation. Of these, 24% were relieved or improved by treatment and are not known to have been reconvicted.

Mr. Wilmot is not satisfied that the British *x*-ray industry can at the moment meet home and export requirements. To improve the position he has set up a committee to consult with the manufacturers on measures for the further development of the industry.

Vaccination and inoculation are not compulsory in the Merchant Navy, nor in the Royal Navy. Arrangements are made for merchant seamen to be informed of the danger of contracting smallpox and other diseases in foreign ports and for their vaccination and inoculation if they are willing.

Mr. Bevan has stated in the House that the bovine tubercle bacillus is estimated to cause less than 2% of all cases of pulmonary tuberculosis, and about 30% of all forms of non-pulmonary tuberculosis, but it is not possible to give a separate figure for tuberculosis of the bones and joints.

It is estimated that at Dec. 31, 1945, there were in England and Wales approximately 182,000 persons under treatment for pulmonary tuberculosis and 54,000 for non-pulmonary tuberculosis, but no separate figures are available regarding non-pulmonary bone and joint cases.

Eleven cases of smallpox have been admitted this year to the Port Health Hospital, New Ferry. Of these six were members of the Forces and one a member of the crew of a ship arriving at Liverpool.

Medical News

A Chadwick lecture on "The Rehabilitation of Displaced Persons and its Hygienic Bearings" will be given by Major Eyre Carter at the Alliance Hall, Palmer Street, Westminster, S.W., on Tuesday, May 7, at 2.30 p.m.

A meeting of the Medical Society of the L.C.C. Service will be held at the County Hall, S.E., on Wednesday, May 8, at 2.30 p.m., when there will be a discussion on "The Treatment of Minor Injuries and Infections of the Hand," to be opened by Mr. R. V. Lewys-Lloyd, Mr. J. C. Gillies, and Mr. J. Gabe.

Dr. A. S. Parkes, F.R.S., will read a paper on "Hormones" before the Royal Society of Arts, John Adam Street, Adelphi, W.C.2, on Wednesday, May 8, at 1.45 p.m.

Meetings of the Royal Sanitary Institute will be held at Ipswich Town Hall on Friday and Saturday, May 10 and 11. At 2.30 p.m. on May 10 papers will be read by Dr. M. Markowe on "The National Health Service Bill" and by Mr. J. B. Storey on "The Use of Standard Concrete Hutting for Temporary Hospital Buildings at Ipswich." At 10.30 a.m. on May 11 papers will be read by Dr. S. M. Laird on "The Operation of Regulation 33B" and by Dr. Doris E. P. Jolly on "The Adoption Act."

The South Wales Children's Nutrition Council has arranged a conference on school meals (How to "Speed Up" the Scheme) on Saturday, May 18, at 2.30 p.m., to be held at Engineers' Institute, Park Place, Cardiff. The discussion will be opened by Dr. Greenwood Wilson, medical officer of health for Cardiff, and Dr. Evan Thomas, deputy medical officer of health for Glamorgan, with Mr. Eddie Williams, B.Sc., in the chair. Delegates from all interested organizations are invited.

Recent advances in medicine will be the general subject of a course of lectures arranged by Prof. Pasteur Vallery-Radot, to be held at the Hôpital Broussais, 96, Rue Didot, Paris, on May 17, 18, and 19. Endocrinology, pathology of the liver and kidneys, the sulphonamides, penicillin, blood transfusion and its problems, and the treatment of burns are among some of the subjects to be covered. Further details may be obtained from the Scientific Office, French Embassy, 1, Carlton Gardens, London, S.W.1 (Tel. Whitehall 5444, Ext. 403); or Dr. Jean Hamburger, 29, Boulevard de Courcelles, Paris 8.

The Harveian Society of London announces that the Harveian Lecture on "Progress of Aviation Medicine in the R.A.F. and its Application to Problems of Civil Aviation" will be delivered by Air Marshal Sir Harold Whittingham at the Royal College of Surgeons of England (Lincoln's Inn Fields, W.C.), on Monday, May 27, at 5 p.m.

The spring meeting of the British Orthopaedic Association will be held at the Royal Victoria Infirmary, Newcastle-upon-Tyne, on May 24 and 25.

A meeting of the directors of the Society for Relief of Widows and Orphans of Medical Men was held on April 10, with Dr. R. A. Young, president, in the chair. The death of a member, Dr. F. C. Kempster, who was elected in 1892, was reported; also the deaths of two of the widows in receipt of grants, of whom one had been on the funds since 1920 and had received from the Society £2,074, the other since 1934 and had received £982. The annual general meeting will be held on Wednesday, May 8, at 5 p.m. Any member who has been serving in H.M. Forces and who is now demobilized is asked to inform the secretary of his present address. Membership is open to any registered medical man who, at the time of his election, is residing within a twenty-mile radius of Charing Cross. Relief is granted only to the widows and orphans of deceased members. Full particulars may be obtained from the secretary of the society, 11, Chandos Street, Cavendish Square, W.1.

Three representatives of the Greek Ministry of Hygiene—Dr. Phoecian G. Copenaris, director-general; Dr. Stephopoulo, secretary; and Dr. Razis, chief of quarantine—have arrived in this country under the auspices of the British Council to study our health services. In co-operation with the Ministry of Health arrangements have been made for them to meet British authorities and to visit hospitals and other medical institutions.

Sir Alfred Webb-Johnson, P.R.C.S., has accepted the presidency of the Association of Certificated Blind Masseurs, which exists to safeguard the professional interests of blind chartered physiotherapists; and Dr. William Moodie has been appointed general consulting psychologist to the National Institute for the Blind.

The Central Midwives Board for England and Wales has re-elected Mr. Arnold Walker as chairman and Mr. J. P. Hedley as vice-chairman for the year ending March 31, 1947.

The next meeting of the Ophthalmological Society of Australia will be held in Melbourne in October, 1946.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* the notifications of measles increased by 284. Other infectious diseases declined: whooping-cough by 175, acute pneumonia 96, scarlet fever 26, and dysentery 24.

The increase in measles was confined to London and Lancashire, where there were 214 and 58 more cases than in the preceding week; the London notifications were 37% of the total for the country. Whooping-cough declined in most areas, except London and the south-eastern counties, where the cases rose from 351 to 393; the largest falls were Warwickshire 65 and Yorkshire West Riding 41. The total new cases of diphtheria remained unchanged, and the only local alteration of note was a fall of 10 in Warwickshire. There was a decline of 29 in the incidence of scarlet fever in Lancashire.

Dysentery notifications were fewer than in any previous week this year. No new outbreaks were notified. In Surrey 31 further cases were recorded, compared with 67 in the preceding week. Other large returns were Lancashire 43, London 26, Warwickshire 17, Leicestershire 14, Essex 11, Staffordshire 10.

In *Scotland* large decreases were recorded for acute primary pneumonia 87, and scarlet fever 61, while rises occurred in the incidence of whooping-cough 26, and diphtheria 11. Scarlet fever is now at the lowest level for recent months. The rise in diphtheria was in the Western Area, where the cases increased from 78 to 90. Zetland County, where no case was recorded in the preceding week, had 43 cases of whooping-cough.

In *Eire* notifications of diphtheria increased by 10; dysentery and diarrhoea in infants under 2 years of age increased in Dublin C.B. from 36 to 40.

In *Northern Ireland* the only appreciable change was a decrease of 12 in cases of scarlet fever.

Death from Smallpox

A soldier recently returned from the Far East and admitted to the Clayton Smallpox Hospital on April 21 died there on April 28. There has been no further case so far, and all known contacts are being kept under observation.

Week Ending April 20

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,051, whooping-cough 1,607, diphtheria 415, measles 2,392, acute pneumonia 652, cerebrospinal fever 64, dysentery 189, paratyphoid 9, typhoid 3. Three cases of smallpox were imported during the week.

No. 15

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended April 13.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1946					1945 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	78	7	41	1	1	70	4	28	3	5
Deaths		3	—				2	3		
Diphtheria	463	41	118	56	14	438	14	111	100	22
Deaths	6	—	2	1	—	6	—	1	5	—
Dysentery	270	26	32	3	—	463	32	180	—	—
Deaths				—	—				—	—
Encephalitis lethargica, acute	1	—	—	—	—	2	—	—	—	—
Deaths		—					—			
Erysipelas			39	7	4			44	13	3
Deaths		—					1			
Infective enteritis or diarrhoea under 2 years				46					7	
Deaths	61	12	7	10	—	49	7	3	9	4
Measles*	2,552	950	810	46	3	20,342	1651	394	86	35
Deaths	2	—	—	1	—	12	1	4	1	1
Ophthalmia neonatorum	68	3	21	—	—	63	5	15	1	—
Deaths										
Paratyphoid fever	4	—	—	—	—	2	—	—	1 (B)	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal	871	44	8	13	4	664	46	4	2	5
Deaths (from influenza)†	24	2	2	1	—	13	—	1	—	—
Pneumonia, primary			227	27				172	30	
Deaths		35		7	10		33		7	6
Polio-encephalitis, acute	1	—				—	—			
Deaths		—					—			
Poliomyelitis, acute	5	1	—	1	—	5	1	1	—	—
Deaths		—					—			
Puerperal fever		—	19		—		4	13		—
Deaths										
Puerperal pyrexia‡	124	13	15	1	—	131	9	11	—	—
Deaths		—					—			
Relapsing fever	—	—			—	—	—			—
Deaths										
Scarlet fever	1,366	105	132	25	27	1,215	57	207	20	62
Deaths	—	—	—	—	—	1	—	—	—	—
Smallpox	§3	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	3	2	—	—	1	8	—	1	11	—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough*	1,934	180	120	28	18	1,234	56	192	33	26
Deaths	8	1	—	2	1	3	—	3	1	—
Deaths (0–1 year)	402	54	40	27	15	367	45	52	42	27
Infant mortality rate (per 1,000 live births)										
Deaths (excluding still-births)	4,730	752	599	188	129	4,480	648	632	226	132
Annual death rate (per 1,000 persons living)			13·2	12·0				14·3	14·6	
Live births	7,697	1148	926	402	255	6,643	740	830	441	269
Annual rate per 1,000 persons living			18·6	25·8				16·6	28·5	
Stillbirths	236	34	38			211	20	21		
Rate per 1,000 total births (including stillborn)			39					25		

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ Including 2 imported cases.

Letters, Notes, and Answers

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Aitiology Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.
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ANY QUESTIONS?

Epilepsy and Intercurrent Infections

Q.—*Is there a biological antagonism between schizophrenia and epilepsy? Do epileptics undergo a remission of fits in varying degree while suffering from severe general infections, particularly pneumonia? If so, could the remission of fits during pneumonia be due to the altered respiratory rhythm? Would the induction of an artificial pneumothorax be of value in such cases?*

A.—Chronic epileptics may show a lessened fit incidence during the acute phase of some intercurrent disorder of an infective nature. Measles is a good example; also pneumonia during the febrile stage. I know of no evidence to suggest that the alteration in the respiratory rhythm is responsible, or that artificial pneumothorax in epileptics would produce a relative or temporary remission. A condition of acidosis is usually regarded as the explanation of the temporary improvement in epileptics during infections. Of course, hyperventilation of the lungs (as from deliberate over-breathing) is known to aggravate the abnormal cortical rhythm of epileptics, and even at times to precipitate an attack. An antagonism between schizophrenia and epilepsy has certainly been claimed, but has also, in all probability, been exaggerated.

Nocturnal Erections

Q.—*Two male patients, aged 48 and 50, one married and the other single, complain of being wakened at night by erections. There is no pain but an urgent desire to micturate. Both have clear, sterile, normal urine; blood urea normal; radiological and cystoscopic findings normal. Prostatic enlargement is not noticeable. Both confess to some sexual frustration. Is this a physical or a psychological condition? What further investigation and treatment do you recommend?*

A.—Very little help can be given about these patients. Sometimes in single men psychological factors can be found which explain nocturnal erections. I have known cases in which they occurred only at night and by day the patient was impotent and without desire. But this would not apply to the two cases in question. They have been examined and the existence of a physical cause has been excluded. Possibly it might be helpful to examine prostatic fluid expressed by massage for the presence of pus cells. In any case, a course of prostatic massage might be a useful form of treatment. Small doses of luminal should be given before going to bed. But I have to admit that I have had several cases, but in more elderly men, who have suffered from this trouble, and who have not received benefit from any form of treatment. No explanation could be found for the condition, and I have regarded it as being a symptom of a "male climacteric."

Botryomycosis

Q.—*What is the best treatment for botryomycosis?*

A.—The term botryomycosis was used to describe an affection of the scrotum occurring in castrated horses and thought to be due to fungus. A similar type of lesion in man as the result of minor injury or infection in any site led to the term botryomycosis hominis being employed. Since Radcliffe Crocker's paper in 1903 (*Med. Soc. Trans. Lond.*, **26**, 143), however, the term granuloma pyogenicum or infective haemangioma has more commonly been employed. The lesion is no more than a small tumour of granulation tissue and is therefore highly vascularized.

The most effective treatment is to remove the tumour with a curette, using local anaesthesia, and cauterize the base—liquor hydrarg. nitratis acidus is useful for this purpose. Many authorities also give an application of *x* rays following this treatment—about 400 *r* units, unfiltered, at 60 kV. The lesion will usually clear with *x*-ray therapy alone, and occasionally will respond to sulphonamides by mouth and local antiseptic measures.

Carbon Monoxide Poisoning

Q.—*Is there any evidence that inhalation of air polluted with carbon monoxide gradually and progressively kills the white blood corpuscles?*

A.—There is no evidence that inhalation of carbon monoxide has any effect on the white blood corpuscles. The toxic action of carbon monoxide can be completely explained on the basis of chemical asphyxia. Carbon monoxide is not a cumulative poison and there is no such condition as chronic carbon monoxide poisoning. Daily exposure to small amounts of carbon monoxide may lead to a continuous mild carboxyhaemoglobinaemia producing a partial deficiency of oxygen to which the body will respond in the usual way—i.e., typically by a mild polycythaemia. There is no evidence that the white cells are involved in the process.

Contact Lenses for Myopia

Q.—*What is your opinion of contact lenses for high myopia? What is the best solution to employ with the lenses? Are there any possible ill effects from their prolonged use?*

A.—Contact lenses are useful in high myopia. The length of time the lenses can be tolerated by the eyes varies from one case to another. The least period of time for which they can be worn is usually four hours, the most about eighteen hours. No ill effects result if the lenses are used intelligently and care is exercised in putting them in and removing them. In fact, if one theory of the causation of myopia is correct, they may have a beneficial effect. The best solution which has been so far discovered to use with the lenses is 2% sod. bic.

Boiling Coffee Twice

Q.—*It is popularly supposed that boiling coffee again after it has been made changes its flavour or makes it bitter. Is this true? If so, why?*

A.—Boiling coffee again results in a loss of aroma and of certain volatile flavouring materials, and the underlying somewhat bitter flavour thus becomes more apparent. There is no increase in bitterness. At the same time there are certain oxidation changes which take place, and these also tend to change the flavour.

Dimethyl Phthalate and Artificial Silk

Q.—*A note on dimethyl phthalate (D.M.P.) states (Jan. 26, p. 153) that it "dissolves certain types of artificial fabrics." What fabrics?*

A.—The phthalates dissolve cellulose, nylon, polyvinyl chloride, methacrylates, polystyrene, neoprene, and Buna N. Materials made of these synthetic substances will be attacked—e.g., stockings or other underwear of "artificial silk," spectacle frames, fountain pens, buttons, and some types of artificial jewellery.

Migration of Foreign Bodies

Q.—*A patient ran a needle into her thumb in 1934 and half of it was recovered. Yesterday, when she was vomiting, the other half appeared in the vomit! I have examined both pieces and the second half fits exactly on to the first half. Is this remarkable or not?*

A.—Numerous examples of the migration of foreign bodies in the tissues have been recorded. As in the present instance, some are well authenticated, and the phenomenon, although remarkable, does not appear to be very rare. Gould and Pyle (*Anomalies and Curiosities of Medicine*, New York, 1937) cite some strange cases, mostly dating from antiquity. Lambert

Rogers (*Lancet*, 1942, **2**, 535) records a number of recent examples and reports a case of his own. It is common experience that foreign bodies generally remain at the site of lodgment, and, apart from embolism, the processes whereby some of them wander such long distances are unknown. Nor is it clear whether their journeys are continuous or interrupted by long halts; if the latter, the reasons for restarting into activity are also obscure.

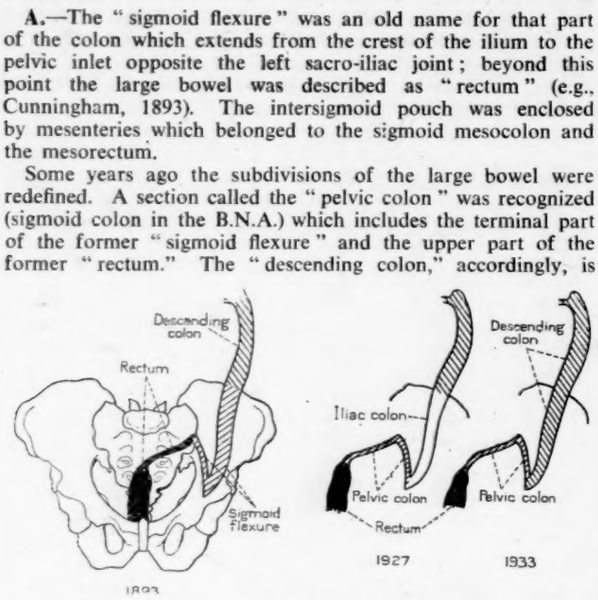
In the case mentioned the probable course of the piece of needle was across the side of the neck, possibly in the plane of the prevertebral fascia, which would direct it to the back of the pharynx. Although it appeared in the vomit it is extremely unlikely that it ever entered the stomach.

Terminological History of the Colon

Q.—*Define the sigmoid colon. What is its relation to iliac and pelvic colon? Grey Turner refers to "the sigmoid flexure or iliac colon," implying that the terms are synonymous, and goes on to state that the flexure has a good mesentery, whereas "Gray's Anatomy" states that the iliac colon does not possess a mesentery.*

A.—The "sigmoid flexure" was an old name for that part of the colon which extends from the crest of the ilium to the pelvic inlet opposite the left sacro-iliac joint; beyond this point the large bowel was described as "rectum" (e.g., Cunningham, 1893). The intersigmoid pouch was enclosed by mesenteries which belonged to the sigmoid mesocolon and the mesorectum.

Some years ago the subdivisions of the large bowel were redefined. A section called the "pelvic colon" was recognized (sigmoid colon in the B.N.A.) which includes the terminal part of the former "sigmoid flexure" and the upper part of the former "rectum." The "descending colon," accordingly, is



now recognized as extending into the left iliac fossa, while the "rectum" commences only at the third piece of the sacrum. Of these parts of the large bowel the pelvic colon alone has a mesentery—the pelvic mesocolon. After the term "sigmoid flexure" had been discarded the term "iliac colon" (e.g., Cunningham, 1927) was for a time applied to the first part (only) of the sigmoid flexure (viz., to that part which is in the left iliac fossa); it has no mesentery.

The "iliac colon" has now been included (B.R.) under the term "descending colon" on the ground that in structure and function there is no justification for a distinction between them. The current (B.R.) terminology is now given as a glossary in most standard textbooks of anatomy, and was published *in extenso* by the Anatomical Society of Great Britain and Ireland in 1933.

Rubella in Pregnancy and Congenital Defects

Q.—*A married woman's first pregnancy ended in the birth of a stillborn child with marked posterior cranial defect. She had rubella early in the pregnancy. She is naturally anxious about the outcome of her present pregnancy. What are the chances of the second child having any congenital defect, or does the rubella explain all?*

A.—It is still not certain whether rubella contracted early in pregnancy can cause congenital defects in the child. The literature was reviewed in annotations in the *Lancet* (1944, **1**, 316) and the *Journal* (1945, **1**, 635), and it was concluded that the evidence, although suggestive, is not yet sufficient to exclude a chance relationship in the recorded cases. The problem is again discussed by L. G. Parsons (*J. Obstet. Gynaec. Brit. Emp.*, 1946, **53**, 1), who suggests that even though a causal relationship is as yet unproven it is a probability which deserves serious practical consideration. When rubella in the mother has appeared to affect the child the defects have mostly occurred in relation to the heart, eye, and ear. If it be accepted that rubella can sometimes cause foetal malformations, it must nevertheless be recognized that in the majority of cases where the foetus is deformed the mother has not suffered from rubella or any infection in early pregnancy. Other non-recurrent factors sometimes operate, but mostly no cause is apparent and there appears to be an inherent tendency for some couples to produce malformed children—even though there is no family history of such on either side. In this case, therefore, and even though the chances of a recurrence are not very high, it would be wise to maintain a cautious outlook as to the outcome. From the standpoint of the patient's happiness the view that the previous malformation was due to the rubella could be fostered, but close watch should be kept for any sign of foetal abnormality occurring again this time. The foetus should be *x*-rayed at the twenty-eighth and again at the thirty-sixth week for evidence of skeletal defects.

Tridione in Petit Mal

Q.—*What is tridione used for?*

A.—Preliminary trials in America (Lennox, W. G., *J. Amer. med. Ass.*, 1945, **129**, 1069) have shown that tridione has a more favourable effect than other drugs so far used on petit mal—i.e., in cases which show characteristic wave-and-spike complexes in the electro-encephalogram. No reports are as yet available of trials in this country.

Disability Pensions

Q.—*What is the basis on which pensions are assessed for disabilities incurred as a result of active service? What exactly is meant by 50% pension? Is the earning capacity of a claimant prior to such disability taken into consideration, and is this compared with his future capabilities? What would the percentage difference be between a case of, say, a manual worker who has lost a left arm and another who has ulnar paralysis? How are pensions computed for recurring temporary illnesses, such as malaria and dysentery?*

A.—The basis of assessment for disablement incurred as a result of service in the 1939 World War is laid down in Article 9 of the *Royal Warrant*, which reads as follows:

"The degree of disablement due to war service of a member of the Forces shall be assessed by making comparison between the condition of the member as so disabled and the condition of a normal healthy person of the same age and sex, without taking into account the earning capacity of the member in his disabled condition in his own or any other specified trade or occupation, and without taking into account the effect of any individual factors or extraneous circumstances."

It may be added, however, that a pensioner who is so seriously disabled by his pensioned disablement as to be unemployable may be eligible for a supplementary allowance in addition to his normal pension; alternatively, if a pensioner's disablement due to service is assessed at less than 100% and, in consequence of that disablement, he is permanently incapable of resuming his former occupation and incapable of following or being trained for one of equivalent standard, he may be granted a special hardship allowance.

The degree of disablement is expressed as a percentage, 100% representing total disablement; accordingly a 50% pension represents a pension at half the total rate. The assessment for the loss of an arm (amputation at or near the shoulder) is 80% when the right arm is involved, irrespective of the nature of the man's occupation, or 70% when the left arm is involved. In the case of a left-handed man the pension in respect of the loss of the left arm would be 80%. The pension payable to a man with ulnar paralysis would depend on the extent of disablement; this would normally be less than that for the loss of an arm.

The assessment is based on the *average* degree of disablement over a lengthy period—i.e., 12 months—and account is taken of probable variations in the condition. During an

approved course of treatment, however, a pensioner receives a treatment allowance, normally equivalent to the rate of pension for 100% disablement, for so long as the treatment prevents him from working. It may be added that arrangements have been made at the Regional Offices of the Ministry of Pensions for a speedy investigation into illnesses said to be recurrences of malaria or dysentery with a view to the provision of immediate treatment where the diagnosis of malaria or dysentery is established.

Tuberculous Bacteriaemia and Sudden Death

Q.—*Could tuberculous bacteriaemia alone, resulting from tuberculous adenitis, be the cause of a rather sudden death?*

A.—Tuberculous bacteriaemia has been the subject of much investigation; it is known that the disease spreads by the blood stream, but it is always very difficult to culture the bacilli from the blood. A massive blood-borne infection, such as that resulting from the rupture of a caseous gland into a vessel, usually produces acute generalized miliary tuberculosis, with rapid but not immediate death. Sudden death does sometimes occur in cases of previously unsuspected tuberculous meningitis, which in turn could be due to haematogenous infection from a gland. In such cases the changes in the meninges may be very slight and can easily be missed at necropsy.

British Doctors in Argentina

Q.—*Can British subjects possessing a medical qualification registrable in the U.K. practise in Argentina.*

A.—There are no reciprocal relations under the 1886 Medical Act between the United Kingdom and Argentina. Whether doctors with qualifications which are registrable in the United Kingdom are entitled to practise in Argentina therefore depends entirely on the local law of Argentina. The Argentine authorities have arranged examinations in three cycles, to be taken in one year or longer, each cycle consisting of a certain number of subjects. These examinations have been suspended in the University of Buenos Aires, but are still held at the University of La Plata, which is one hour by train from Buenos Aires. As arrangements are not reciprocal it is advised that any doctor who proposes to practise in Argentina should first apply to the authorities in Argentina either direct or through the Argentine Embassy in London.

INCOME TAX

Indian Army Pay

W. H. D. inquires as to the position of an officer in the Indian Army who returned to England in November, 1945, and was demobilized in January, 1946.

*** The Indian Army pay received in the United Kingdom is liable to assessment to British income tax; but the officer in question will be entitled to set against his income for 1945–6 a full year's personal allowance, and the normal "relief in respect of Dominion income tax."

Life Insurance Relief: Replacement of Car

"QUERIST": (*a*) His income before the war was £2,500 per annum, but during his army service has been £1,500. He has throughout paid £400 per annum in life insurance premiums. Does the fall in income affect the relief? (*b*) His car was laid up for the period from the date when he joined the R.A.M.C. until June, 1945; his partner then found that he was no longer able to use his own car, and sold it for £180 and thereafter used "Querist's" car. In March, 1946, the partner bought another car for £405. What can be claimed in respect of the new car?

*** (*a*) Section 9 of the Finance Act, 1941, provides that for the year 1939–40 to the present time the limitation of life assurance relief by reference to one-sixth of the total income of the individual concerned "shall be construed as a reference to total income for the year of assessment in question or total income for the year 1938-9, whichever is the higher." "Querist" can therefore still claim relief on the full £400. (*b*) It is the partnership as such (and not the individual members) that is chargeable to income tax, and the fact that one partner used a car which belonged to another partner does not affect the allowances. Claim should accordingly be made, in computing the profits for the year which includes March, 1946, for the "initial allowance" in respect of the new car, and, as regards the ensuing year to April 5, for the 25% depreciation allowance.

Employment: Deductible Expenses

"TAX" holds an appointment and asks what expenses he can deduct.

*** The liability falls under Schedule E and the relevant rule with regard to expenses forbids the deduction of any expenses not "wholly, exclusively, and necessarily incurred in the performance of the duties of the office." The rule is rigid and usually excludes the sort of expenses which "TAX" mentions. Subscriptions to journals and the cost of purchase of new medical books, for instance, would be refused as not being "necessary in the performance of the duties" unless the authority from whom the appointment is held requires their employee to incur such expenses. The cost of further study, whether medical or otherwise, is not admissible.

Maintenance of Assistant

P. H. employed an assistant "on the basis of £600 per annum plus £3 per week for maintenance." It was understood on inquiry from the tax office that £13 per calendar month was free from deduction of tax under P.A.Y.E., but that is now stated to be incorrect and tax is claimed on the £13 per month.

*** There was evidently some misunderstanding in connexion with the inquiry of the tax office. Tax is deductible from all "pay" made in cash; in fact the *Employer's Guide*—which is supplied to employers to assist them in dealing with P.A.Y.E.—specifically states that "pay" for the purposes of income tax includes . . . payments in lieu of benefits in kind—e.g., board wages. Tax is undoubtedly due on the payments in question.

Deductions for Superannuation

"S." is employed on the staff of a research institute; 5% of his salary is deducted for superannuation under the Federated Scheme for Universities. He asks (*a*) what allowance is due for income tax, and (*b*) if the capital sum available under the scheme when it becomes payable is converted into an annuity will the annuity be taxable?

*** (*a*) The answer depends on the precise nature of the contract, but, prima facie, if the benefit provided under the scheme is a capital sum, the deductions made are not allowable. Further inquiry might be made of the secretary to the scheme. (*b*) Yes, "annuities" as a class are subject to income tax.

LETTERS, NOTES, ETC.

Marriage and Dysmenorrhoea

Dr. H. E. GIBSON (South Godstone) writes: With regard to the question about marriage and dysmenorrhoea (Feb. 9, p. 225), might I suggest a course of treatment with diathermy. This frequently cures cases of "functional" dysmenorrhoea, probably because of the increased blood flow through the pelvic organs.

Village Longevity

Dr. CHARLES E. S. HARRIS writes from Sussex: I have just completed 9 months as locumtenent in a South Devon fishing village. In that period I signed 18 death certificates. The youngest patient was aged 62 and the oldest was 93. The average age was 78.5 years. A few days before I left the village I had occasion to go to a farm some two miles out. There, to my surprise, I found the village's oldest inhabitant, aged 96, having tea and looking very comfortable and happy. He had walked there, up some very steep hills, and was quite prepared to walk back.

Hypodermic Needle for Skin Suture

Dr. A. R. EATES (London, S.W.3) writes: Your correspondent L./S.B.A. Kille (March 2, p. 342) writes to say that he had never before "the other day" seen this method practised. May I say that I first heard, or read, of it forty-six years ago and used it frequently right up to 1945. The even calibre of the needle makes it almost painless. Very fine silver wire may also be used in place of horse-hair. Your correspondent and others may be interested in another method for suturing incised wounds without any puncturing of the skin. Sticking-plaster is applied a little distance from the wound on both sides and parallel with it; these are narrow enough and distant enough from the wound not to cover it (the sutured wound) when their edges are drawn together with the suturing silk or what not that is used to draw them, and of course the skin to which they are adherent, towards each other. In this manner wounds of the skin, even in nervous children and others, may be treated painlessly. Care must be exercised to approximate the wound edges without covering them with the plaster when traction is made on the strips which are drawn towards each other by means of the suturing silk or gut. A procedure recorded by a correspondent of the *Journal* some forty-four to forty-six years ago may interest and amuse some, especially the *virtuosi*, among your readers. Writing

from Egypt he mentioned a mode practised by the Arabs. It was to approximate the edges of the wound with finger and thumb of one hand, and to induce as many as were necessary of the large strong-mandibled ants to be found in those parts to clip the edges together, holding the insect with the other finger and thumb. As soon as the jaws closed, the operator pulled off the rest of his able collaborator, leaving only its head holding on like grim death! In this ingenious manner as many ants were used as were required to close the incision neatly. There being no ants of the size required available in this happy isle I have never been able to prove the value of the procedure. It has often occurred to me that the Zoo authorities might be induced to furnish a supply of large ants for the treatment of incised wounds in "rheumatic" subjects, for more than one of my rheumatic patients have reported a freedom from their symptoms after a visit to Burnham Beeches, where they were treated, free gratis and for nothing, by the ants that there abound. I could think only of formic acid as an explanation. Do you think "there may be something in it"?

A Clean Shave

Dr. L. ERASMUS ELLIS writes from Durban, South Africa: In your issue for Dec. 29, 1945 (p. 923), you give a review of *Medical Uses of Soaps*, and in doing so you mention an assertion in the book that a dull razor causes less trauma to the skin than a sharp one. This I can fairly conclusively support by practical experience. For years I have adopted the plan of using a different razor blade, in a safety holder, every day of the week, having seven blades in commission. Using these blades only once a week, some of them last for months, but they all vary in the "finish" of their respective shaves. After shaving, I use a mildly antiseptic lotion containing a large proportion of spirit on the shaved surface. Applied to an ordinary skin surface this spirit lotion is cooling, but does not smart. On application to the newly shaved area of the skin, however, it tingles and sometimes smarts considerably, and I notice that this reaction is much greater after using a new razor, which gives a much cleaner shave than one that has been used for some time, which produces a less smooth skin surface. The difference is quite remarkable, and brought home to me the considerable amount of trauma that we inflict upon the skin by shaving. This is all the more interesting to me personally, as I happen to be specializing in dermatology.

Aphthous Ulceration of Mouth

Dr. JOHN HALLAM (Liverpool) writes: With reference to the question and answer under the above heading (March 9, p. 379), I have seen between 20 and 30 cases of this painful condition in the past eighteen months. A considerable proportion of these attacks are either associated with, or follow, a mild gastro-intestinal disturbance. I have had 100% success in treating them with:

℞ Sodium thiosulphate (hyposulphite) .. 10 gr. (0.65 g.)
Tinct. card. co. .. .. 5 min. (0.3 ml.)
Aq. .. .. ad 1/2 oz. (15 ml.)
Sig.: 1/2 oz. (15 ml.) t.d.s., p.c. Taken for one week.

I have been able to follow up about half the cases and have no record of any recurrence. I cannot agree with the indiscriminate use of penicillin lozenges or pastilles as you advocate. In fact, the buccal flora would, on clinical evidence of recurrence of oral infections originally treated with penicillin, have great power of becoming penicillin-fast. This has been so evident that I now use local penicillin only as a "boost" dose to a systemic course.

Sunflower Seeds

Mr. E. F. HURT writes: A question and answer on sunflower seeds (March 23, p. 458) discussed the possible therapeutic and nutrient value of this seed. To-day sunflower is considered one of the world's most important oilseed crops, the numerous varieties being capable of growth in almost any climate or soil. Its value lies partly in the oil (32 to 40%) and partly in its high protein content (about 55%). Up to 1939 the most important growing countries were Russia, with a production of some 3,000,000 tons of seed annually, Rumania, and the Argentine, while smaller quantities were produced in Hungary, Uruguay, India, Egypt, and even France and elsewhere. The oil is very largely used for the manufacture of margarines and vegetable lards, and was also most extensively used for cooking on the Continent as well as for canning sardines, etc. The seeds have long been considered a national food in Russia, and of more recent years have been dehusked and sold in packets in the U.S.A., in a similar manner to ground- or pea-nuts. But the most important advance is shown by the report in *Science* (U.S.A., April 27, 1945) on the findings of Prof. and Mrs. Harry G. Day, of Indiana University, in co-operation with Ezra Levin of Monticello, Ill. They found that sunflower seed was an important source of B vitamins, superior to wheat germ or corn germ and far superior to defatted soya-bean meal in this respect. Prof. H. H. Mitchell, of the University of Illinois, had already shown the protein in sunflower seed, after oil extraction, to be in the same class as oats, wheat, and barley, such residue being nearly 50% protein. Similar solvent-extracted kernel residue was also experimented on for human food, and a Day-Levin report on the latter described it as a "palatable light-grey powder" which could be satisfactorily blended with white flour, etc., to make very appetizing baked goods. Since this report appeared commercial manufacture of protein foods from sunflower seed has commenced in the U.S.A., and Mitchell, Hamilton, and Beadles, of the University of Illinois, point out, in the *Journal of Nutrition* (1945, **29**, 13), that such protein was 94.3% digestible with a biovalue of 64.5%. By heat treatment, for low-temperature extraction of oil, the protein content was improved and was found to be higher than that of other foods such as soya-bean and coco-nut. A very recent report (Jan., 1946) from Canada shows the stress that the Canadian Ministry of Agriculture are putting on increased sunflower production in the prairie provinces this year. It is a pity that so little has been done commercially with sunflower in this country in the way of experimenting on its many uses, particularly during the recent war years when the crop was being developed here.

Trench Mouth

Dr. JACK FREEMAN (London, W.) writes: I feel that comment is called for on the reply to the inquiry "What is the best treatment for so-called trench mouth?" (March 16, p. 419). "Trench mouth" is acute ulcerative gingivitis, and I do not propose here to enter into the various signs, symptoms, and differential diagnosis. I would stress the aetiology and the simple means it offers for treatment. Briefly the organisms found in the lesion are spirochaetes and accompanying fusiform bacilli. These organisms can be isolated from most mouths, but it is only when conditions are such as to encourage their growth that the clinical picture develops. The prime condition is anaerobiosis, and this is accelerated by the accumulation of fatty or greasy particles around the necks of teeth and filling the interdental spaces. Hence the outbreaks among communal groups—e.g., the Services, factory canteens, etc.—where cooked fats are residual from stews and fatty gravies. First step in treatment is, therefore, the use of soap combined with the thorough rinsing of the oral cavity with 10-vol. hydrogen peroxide to combat the anaerobes. The soap prepares the way, loosening the grease, lowering surface tension, and neutralizing acids. The oxygen is then liberated where it can do its work—i.e., in the depths of the interdental ulcers. The main aims of treatment are: (1) removal of stagnation areas and grease; (2) destruction of the harmful bacteria; (3) stimulation and keratinization of the mucous membrane.

Escharotics, such as chromic acid, should be avoided. One has little or no control of their activities. They deepen pockets and interfere with granulation. They are extremely painful in an already painful ulcer. The lesion is already acid in reaction, and an alkaline agent, soap, not only relieves pain but gives better results. With very acute cases coming into my surgery I use a spirochaeticide, N.A.B. or mapharside, sprinkled direct from ampoule to gingiva (infection is localized and not blood-borne, and injection technique is neither indicated nor necessarily effective), and massaged through closed lips, and finally worked gently into pockets with a blunt scaler. Patient is dismissed with the most lucid instructions for soap and H_2O_2 therapy at home. Soap applied with tooth-brush or cotton-wool, and thorough rinsing with H_2O_2.

This treatment gives 100% cure. All symptoms are gone inside twenty-four hours, and if the indicated home oral hygiene is efficiently carried out, ten days will see the ulcers healed and the mucous membrane firm in appearance. M. J. Glickman was the first to approach this infection correctly from the aetiological factor, and his findings and conclusions should be more widely known. Other factors favouring the onset of the condition, such as malocclusion, malplaced teeth, incorrect fillings, badly fitting crowns, excessive tartar, etc., require the attention of the dental surgeon. Avitaminosis, general debility, mouth-breathing, and all other conditions leading to a preliminary gingivitis need the attention and awareness of the physician, and the co-operation of both on the right lines is the ideal.

Naples Typhus Epidemic: Correction

Lieut.-Col. H. J. CRAUFURD-BENSON writes: In my article published in the *Journal* of April 13 (p. 579) entitled "Naples Typhus Epidemic 1942–3" I regret that there has been a mistake in the date. The epidemic referred to was, of course, 1943–4. Naples was not occupied by Allied Forces until September, 1943. I apologize to you and your readers for the error.

Disclaimer

DR. J. TUDOR LEWIS, Medical Officer of Health, Barnsley, wishes it to be known that recent references to him in the daily press were inserted without his permission or knowledge.

We learn that Lieut.-Col. Gopal S. Chawla, hon. secretary of the Punjab Branch of the B.M.A., has received the tile of Sardar Bahadur among the Indian honours recently conferred.